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NIST
PUBLICATIONS

NVLAP®

National
Voluntary
Laboratory
Accreditation
Program

DIRECTORY OF ACCREDITED LABORATORIES

NIST Special Publication 810
2002 Edition

NIST
National Institute of
Standards and Technology
Technology Administration
U.S. Department of Commerce

The National Institute of Standards and Technology was established in 1988 by Congress to "assist industry in the development of technology . . . needed to improve product quality, to modernize manufacturing processes, to ensure product reliability . . . and to facilitate rapid commercialization . . . of products based on new scientific discoveries."

NIST, originally founded as the National Bureau of Standards in 1901, works to strengthen U.S. industry's competitiveness; advance science and engineering; and improve public health, safety, and the environment. One of the agency's basic functions is to develop, maintain, and retain custody of the national standards of measurement, and provide the means and methods for comparing standards used in science, engineering, manufacturing, commerce, industry, and education with the standards adopted or recognized by the Federal Government.

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- Law Enforcement Standards
- Electricity
- Semiconductor Electronics
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- Electromagnetic Technology[1]
- Optoelectronics[1]
- Magnetic Technology[1]

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- Ceramics
- Materials Reliability[1]
- Polymers
- Metallurgy
- NIST Center for Neutron Research

Chemical Science and Technology Laboratory
- Biotechnology
- Physical and Chemical Properties[2]
- Analytical Chemistry
- Process Measurements
- Surface and Microanalysis Science

Physics Laboratory
- Electron and Optical Physics
- Atomic Physics
- Optical Technology
- Ionizing Radiation
- Time and Frequency[1]
- Quantum Physics[1]

Manufacturing Engineering Laboratory
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- Manufacturing Metrology
- Intelligent Systems
- Fabrication Technology
- Manufacturing Systems Integration

Building and Fire Research Laboratory
- Applied Economics
- Structures
- Building Materials
- Building Environment
- Fire Research

Information Technology Laboratory
- Mathematical and Computational Sciences[2]
- Advanced Network Technologies
- Computer Security
- Information Access
- Convergent Information Systems
- Information Services and Computing
- Software Diagnostics and Conformance Testing
- Statistical Engineering

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[1] At Boulder, CO 80303.

[2] Some elements at Boulder, CO.

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DIRECTORY OF ACCREDITED LABORATORIES

Vanda R. White, Editor
National Voluntary Laboratory Accreditation Program
Office of Standards Services
Technology Services

March 2002

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Donald L. Evans, Secretary

Technology Administration
Phillip J. Bond, Under Secretary of Commerce for Technology

National Institute of Standards and Technology
Arden L. Bement, Jr., Director

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NVLAP AND THE NVLAP LOGO

The term *NVLAP* (represented by the NVLAP logo) is a federally registered certification mark of the National Institute of Standards and Technology and the federal government, who retain exclusive rights to control the use thereof. Permission to use the term and/or logo is granted to NVLAP-accredited laboratories for the limited purposes of announcing their accredited status, and for use on reports that describe only testing and calibration within the scope of accreditation. NIST reserves the right to control the quality of the use of the term *NVLAP* and of the logo itself.

FOREWORD

The 2002 edition of NIST Special Publication 810, *NVLAP Directory of Accredited Laboratories*, lists laboratories that have been found competent by NVLAP to perform specific tests or calibrations, or types of tests or calibrations. Laboratory accreditation provides formal recognition to competent laboratories, thus providing a ready means for customers to find reliable testing and calibration services able to meet their needs. NVLAP-accredited laboratories have the technical foundation needed to meet the requirements of public and private sector regulators, manufacturers, and buyers. They find ready acceptance of their test reports and calibration certificates by both domestic and foreign accrediting bodies that have Mutual Recognition Arrangements with NVLAP.

A description of the NVLAP program is found on pages 1 through 5 of this directory, followed by a summary of the number of current accreditations for each field of testing or calibration. Pages 7 and 8 contain instructions on how to use the directory and describe its organizational structure and content.

The 2002 edition supersedes and replaces the 2001 edition of NIST Special Publication 810.

Potential customers of the laboratories listed in this directory should verify that a laboratory has retained its accreditation at the time its services are to be provided. Current information on the accreditation status of a laboratory can be obtained by contacting NVLAP as follows:

(1) Mailing address: National Voluntary Laboratory Accreditation Program
National Institute of Standards and Technology
100 Bureau Drive, Stop 2140
Gaithersburg, MD 20899-2140

(2) Phone: 301-975-4016

(3) Fax: 301-926-2884

(4) E-mail: nvlap@nist.gov

(5) Web site: http://www.nist.gov/nvlap (updated quarterly).

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PROGRAM DESCRIPTION

The National Institute of Standards and Technology (NIST) administers the National Voluntary Laboratory Accreditation Program (NVLAP). NVLAP is comprised of a series of laboratory accreditation programs (LAPs) which are established on the basis of requests and demonstrated need. Each LAP includes specific calibration and/or test standards and related methods and protocols assembled to satisfy the unique needs for accreditation in a field of testing or calibration. NVLAP accredits public and private laboratories based on evaluation of their technical qualifications and competence to carry out specific tests or calibrations. Accreditation criteria are published in NIST Handbook 150:2001, *NVLAP Procedures and General Requirements*, and encompass the requirements of ISO/IEC 17025:1999 and the relevant requirements of ISO 9002:1994. Accreditation is granted following successful completion of a process that includes submission of an application and payment of fees by the laboratory, an on-site assessment, resolution of any deficiencies identified during the on-site assessment, participation in proficiency testing, and technical evaluation. The accreditation is formalized through issuance of a Certificate of Accreditation and Scope of Accreditation (fig. 1) and publicized by announcement in various government and private media.

NVLAP accreditation is available to commercial laboratories; manufacturers' in-house laboratories; university laboratories; and federal, state, and local government laboratories. Foreign-based laboratories may also be accredited if they meet the same requirements as domestic laboratories and pay any additional fees required for travel expenses.

NVLAP provides an unbiased third party evaluation and recognition of performance, as well as expert technical guidance to upgrade laboratory performance. NVLAP accreditation signifies that a laboratory has demonstrated that it operates in accordance with NVLAP management and technical requirements for accreditation, which include requirements in the areas of quality systems, personnel, accommodation and environmental conditions, test and calibration methods and method validation, equipment, measurement traceability, sampling, handling of test and calibration items, assuring the quality of test and calibration results, and reporting results. NVLAP accreditation does not imply any guarantee (certification) of laboratory performance or test/calibration data; it is solely a finding of laboratory competence. A laboratory may cite its accredited status and use the NVLAP logo on reports, stationery, and in business and trade publications provided that this use does not imply product certification.

This directory of laboratories is published annually and lists the name, address, contact person, phone and fax numbers, e-mail and URL addresses (if available), accreditation renewal date, and scope of accreditation for each laboratory. An updated listing of laboratories is published quarterly on NVLAP's web site: http://www.nist.gov/nvlap.

Accreditation Renewal Date

A laboratory accreditation is valid for one year and commences on one of four dates: January 1, April 1, July 1, or October 1. An accreditation will expire after one year unless renewed by the laboratory. Users of this directory who are considering selection of accredited laboratories should be aware of the renewal date and verify that the laboratory has retained its accreditation at the time its services are to be provided.

On-Site Assessment

Before initial accreditation, an on-site assessment of each laboratory is conducted to determine compliance with the NVLAP criteria. After accreditation is granted, an on-site assessment must be conducted during the first renewal year and every two years thereafter in order for the laboratory to maintain accreditation. An assessment is conducted by one or more NVLAP assessors selected on the basis of their expertise in the field of testing or calibration to be reviewed. They may be engineers or scientists currently active in the field, consultants, college professors or retired persons. Their services are generally contracted as required.

For most programs, assessors use checklists provided by NVLAP so that each laboratory receives an assessment comparable to that received by others. However, assessors have some latitude to make judgments about a laboratory's compliance with the NVLAP criteria.

An assessment normally takes one to five days depending on the extent of the laboratory's application. Every effort is made to conduct an assessment with as little disruption as possible to the normal operations of the laboratory. During the assessment, the assessor carries out the following functions:

- meets with management and supervisory personnel responsible for the laboratory's activities to review the assessment process and to set the assessment agenda;

- examines the laboratory's quality system, selects and traces the history of one or more samples from receipt to final issuance of reports, evaluates the training program, examines notebooks or records pertaining to the samples, checks sample identification and tracking procedures, determines whether the appropriate environmental conditions are maintained, and examines copies of completed reports;

- reviews records of internal audits and management reviews, use of check samples or participation in round-robin testing or other similar programs, personnel records including resumes and job descriptions of key personnel, competency evaluations for all staff members who routinely perform the testing or calibration for which accreditation is sought, calibration or verification records for apparatus used, reports, and sample control records;

- observes demonstrations of laboratory techniques and discusses them with the technical personnel to assure their understanding of the procedures; and

- examines major equipment, apparatus, and facilities.

At the conclusion of the assessment, the assessor will conduct an exit briefing with responsible laboratory staff to discuss observations and any deficiencies. The assessor will forward a written assessment report to NVLAP and leave a copy with the laboratory.

If the on-site assessment reveals deficiencies that pertain to NVLAP requirements, the laboratory must respond in writing to NVLAP within 30 days of the date of the report. The response must provide documentation, signed by the Authorized Representative, that the specified deficiencies have either been corrected or include a plan of corrective actions.

Monitoring Visits

Monitoring visits may be conducted at any time during the accreditation period for cause or on a random selection basis. These visits serve to verify reported changes in the laboratory's personnel, facilities, or operations, or to explore possible reasons for poor performance in proficiency testing. The scope of a monitoring visit may range from checking a few designated items to a complete review.

Proficiency Testing

Proficiency testing is an integral part of the NVLAP accreditation process. On-site demonstration of appropriate facilities, equipment, personnel, etc., is essential, but may not be sufficient for the continuing evaluation of laboratory competence. The production of test/calibration data using special proficiency testing samples or artifacts provides NVLAP with a means to determine the overall competence of the laboratory. Information obtained from proficiency testing helps to identify problems in a laboratory. When problems are found, NVLAP works with the laboratory staff to solve them.

Most fields of accreditation have proficiency testing requirements. Data submitted by the laboratories in response to specific NVLAP requirements are analyzed and reports of the results are made known to the participants. Summary results are available upon request to other interested parties; e.g., professional societies and standards writing bodies. The identity and performance of individual laboratories are kept confidential.

Satisfactory participation is based on specially tailored exercises designed to evaluate the ability of the laboratory to produce the services for which it is accredited. Some methods define pass/fail criteria; in other cases, individual laboratory results must fall within statistically acceptable limits of overall group performance. In a number of programs, NVLAP requires satisfactory participation in proficiency testing as a condition of initial, as well as continuing, accreditation.

Technical Evaluation

To determine if all technical requirements have been fulfilled by a laboratory, a final technical evaluation is performed by NVLAP. The evaluation is based on a review of the record of the laboratory as a whole, including:

- information provided on the application;
- results of quality system documentation review;
- on-site assessment reports;
- actions taken by the laboratory to correct deficiencies;
- results of proficiency testing; and
- information from any monitoring visits to the laboratory.

If the technical evaluation reveals additional deficiencies, written notification of the deficiencies will be sent to the laboratory. The laboratory must respond as specified in the previous section, *On-Site Assessment*. All deficiencies must be resolved to NVLAP's satisfaction before accreditation can be granted.

Accreditation Actions

After the technical evaluation has been completed and all financial and administrative requirements have been satisfied, NVLAP takes one of the following accreditation actions:

Accreditation The laboratory is issued a Certificate of Accreditation and a Scope of Accreditation.

Denial The laboratory is notified of a proposal to deny accreditation and the reason(s).

If an accredited laboratory is found to be out of compliance with the NVLAP criteria, NVLAP may take one of the following actions:

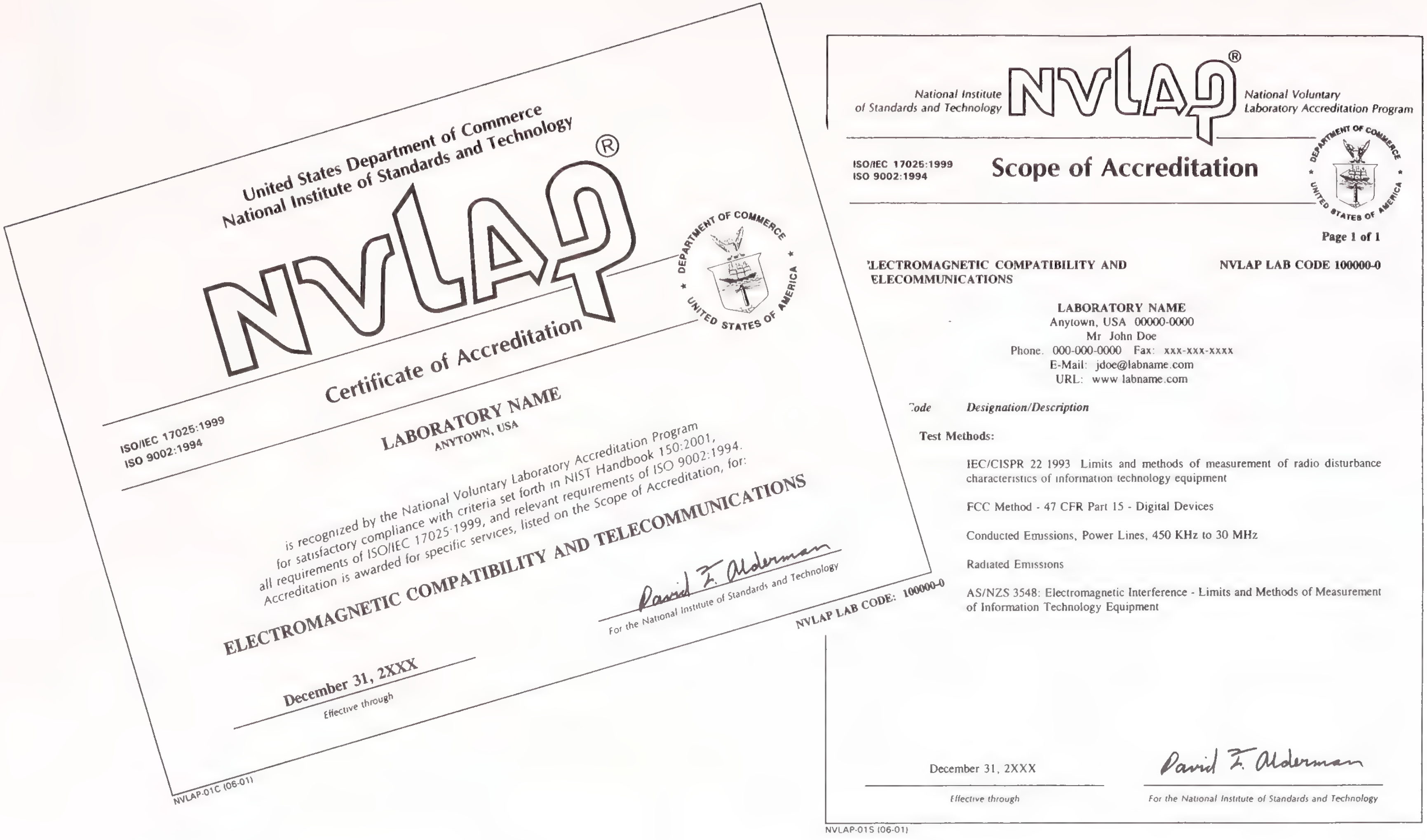
Suspension Suspension is a temporary removal of the accredited status of a laboratory when it is found to be out of compliance with the terms of its accreditation. The laboratory will be notified of the reasons for and conditions of the suspension and the action(s) that the laboratory must take to have the accreditation reinstated.

Examples of reasons for suspension are loss of key personnel, loss of major equipment, damage to laboratory by fire, changing laboratory location, and proficiency test failure.

Revocation Revocation is the removal of the accredited status of a laboratory when it is found to have violated the terms of its accreditation. The laboratory will be notified of the reasons for proposed revocation and the procedure for appealing such a decision. If accreditation is revoked, the laboratory may be given the option of voluntarily terminating the accreditation. A laboratory whose accreditation has been revoked must return its Certificate and Scope of Accreditation and cease use of the NVLAP logo on any of its reports, correspondence, or advertising.

Examples of reasons for revocation are obtaining accreditation through fraud, refusal to resolve deficiencies, and no longer providing the type of calibration or testing service for which accreditation was granted.

If denial or revocation has been proposed, the laboratory may appeal the decision to the Director of NIST. If an appeal is not requested, the action becomes final upon the expiration of the 30-day period following receipt of the notification.



United States Department of Commerce
National Institute of Standards and Technology

NVLAP®

ISO/IEC 17025:1999
ISO 9002:1994

Certificate of Accreditation

LABORATORY NAME
ANYTOWN, USA

is recognized by the National Voluntary Laboratory Accreditation Program for satisfactory compliance with criteria set forth in NIST Handbook 150:2001, all requirements of ISO/IEC 17025:1999, and relevant requirements of ISO 9002:1994. Accreditation is awarded for specific services, listed on the Scope of Accreditation, for:

ELECTROMAGNETIC COMPATIBILITY AND TELECOMMUNICATIONS

December 31, 2XXX
Effective through

David F. Alderman
For the National Institute of Standards and Technology

NVLAP LAB CODE: 100000-0

NVLAP-01C (06-01)

National Institute of Standards and Technology NVLAP® National Voluntary Laboratory Accreditation Program

ISO/IEC 17025:1999
ISO 9002:1994

Scope of Accreditation

Page 1 of 1

LECTROMAGNETIC COMPATIBILITY AND
ELECOMMUNICATIONS

NVLAP LAB CODE 100000-0

LABORATORY NAME
Anytown, USA 00000-0000
Mr John Doe
Phone. 000-000-0000 Fax: xxx-xxx-xxxx
E-Mail: jdoe@labname.com
URL: www labname.com

ode ***Designation/Description***

Test Methods:

IEC/CISPR 22 1993 Limits and methods of measurement of radio disturbance characteristics of information technology equipment

FCC Method - 47 CFR Part 15 - Digital Devices

Conducted Emissions, Power Lines, 450 KHz to 30 MHz

Radiated Emissions

AS/NZS 3548: Electromagnetic Interference - Limits and Methods of Measurement of Information Technology Equipment

December 31, 2XXX
Effective through

David F. Alderman
For the National Institute of Standards and Technology

NVLAP-01S (06-01)

Figure 1. NVLAP Certificate and Scope of Accreditation (sample)

LABORATORY ACCREDITATION SUMMARY

The following table summarizes laboratory accreditations by field of testing or calibration as of the date this directory was prepared for publication. Since some laboratories are accredited in more than one field, the total number of laboratories listed by field of accreditation (see Index B) is greater than the number of laboratories in the system (see Index A).

PROGRAM GROUP/Field of Accreditation		*Number of Accreditations*
CALIBRATION LABORATORIES GROUP		
Dimensional		20
Electromagnetics - DC/Low Frequency		15
Electromagnetics - RF/Microwave		6
Ionizing Radiation		7
Mechanical		29
Optical Radiation		2
Thermodynamic		15
Time and Frequency		13
CHEMICAL CALIBRATION LABORATORIES GROUP		
NIST Traceable Reference Materials (NTRMs)		1
Providers of Proficiency Testing (PPT)		11
DOSIMETRY GROUP/Ionizing Radiation Dosimetry		35
ELECTROMAGNETIC COMPATIBILITY & TELECOMMUNICATIONS GROUP		188
ENVIRONMENTAL GROUP/Asbestos Fiber Analysis:	PLM test method	251
	TEM test method	77
FASTENERS AND METALS GROUP		40
INFORMATION TECHNOLOGY SECURITY TESTING GROUP		
Common Criteria Testing		6
Cryptographic Module Testing		6
PRODUCT TESTING GROUP		
Acoustical Testing Services		24
Carpet and Carpet Cushion		9
Commercial Products Testing (Paints, Paper, Plastics, Plumbing, Roofing, Seals/Sealants)		8
Construction Materials Testing		17
Efficiency of Electric Motors		15
Energy Efficient Lighting Products		12
Thermal Insulation Materials		13
Wood Based Products		5
TOTAL ACCREDITATIONS		825

HOW TO USE THIS DIRECTORY

This directory lists laboratories accredited by NVLAP. It consists of six indexes which are cross-referenced by NVLAP Lab Code, a unique identifier assigned to each laboratory; e.g., 100000-0. The directory enables the user to locate name, address, contact, and accreditation information about laboratories of interest. The user should contact the laboratories directly to get information beyond that provided here.

INDEX A, LISTING BY LABORATORY NAME, lists all laboratories in alphabetical order by laboratory name. The name of each laboratory is listed as it appears on its application for accreditation.

INDEX B, LISTING BY FIELD OF ACCREDITATION, lists all laboratories in alphabetical order by laboratory name within field of accreditation. The index is organized by PROGRAM GROUPS, which are groups of Laboratory Accreditation Programs (LAPs) assembled in categories of technical fields for efficiency in management (see page 6). Listed under each PROGRAM GROUP are the technical fields of accreditation managed within that GROUP. Laboratories accredited in more than one field will have more than one listing in this index.

INDEX C, LISTING BY STATE/COUNTRY, lists all laboratories in alphabetical order by laboratory name within state. The states are designated by the standard two-letter postal abbreviations. Laboratories located outside of the United States are listed at the end of the index. Index C also indicates the field of accreditation for each laboratory.

INDEX D, LISTING OF TESTING LABORATORIES BY NVLAP LAB CODE, lists all testing laboratories in numerical order by NVLAP Lab Code. There is only one listing per Lab Code in Index D.

INDEX E, LISTING OF CALIBRATION LABORATORIES BY NVLAP LAB CODE, lists calibration laboratories in numerical order by NVLAP Lab Code. There is only one listing per Lab Code in Index E.

INDEX F, LISTING OF CHEMICAL CALIBRATION LABORATORIES BY NVLAP LAB CODE, lists chemical calibration laboratories in numerical order by NVLAP Lab Code. There are two fields of accreditation listed in Index F: NIST Traceable Reference Materials (NTRMs) and Providers of Proficiency Testing (PPT).

INFORMATION CONTAINED IN INDEXES D, E, AND F

Each laboratory receives a Certificate of Accreditation and a Scope of Accreditation when accreditation is granted or renewed. The Scope of Accreditation details the methods and services for which accreditation has been granted to a laboratory. Indexes D, E, and F present a condensation of the Scope(s) of Accreditation for testing, calibration, and chemical calibration laboratories, respectively.

The following information is presented for each laboratory listed in Indexes D, E, or F:

(a) NVLAP Lab Code;
(b) Laboratory name and address;
(c) Authorized representative (contact);
(d) Phone number;
(e) Fax number;
(f) E-mail address (if available);
(g) URL (web site) address (if available);
(h) Field of accreditation;
(i) Accreditation expiration date; and

(j) Scope of accreditation.

HOW TO LOCATE SPECIFIC INFORMATION

For a laboratory whose name is known

Refer to Index A and note the laboratory's NVLAP Lab Code. Look up the Lab Code in Index D, E or F to obtain specific information about the laboratory; e.g., address, phone number, Scope of Accreditation, etc.

For a laboratory in a particular geographic area

Determine the states (or country) included in the geographic area of interest. Refer to Index C to obtain the NVLAP Lab Code of a laboratory within the selected geographic area for a given field of accreditation. Look up the Lab Code in Index D, E, or F to obtain specific information about the laboratory; e.g., address, phone number, Scope of Accreditation, etc.

For a laboratory in a particular field of accreditation

Choose the field of accreditation from the list on page 6. Refer to Index B and note the name and Lab Code of each laboratory of interest. Index B is organized by field of accreditation within major program group. Look up the Lab Code in Index D, E, or F to obtain specific information about the laboratory; e.g., address, phone number, Scope of Accreditation, etc.

SPECIAL NOTE ABOUT LABORATORIES ACCREDITED IN ASBESTOS FIBER ANALYSIS

The test method designations for Bulk Asbestos Analysis (PLM) and Airborne Asbestos Analysis (TEM) are as follows:

NVLAP Code	*Program Title/Test Method Designation*
18/A01	BULK ASBESTOS ANALYSIS (PLM) U.S. Environmental Protection Agency (EPA) "Interim Method for the Determination of Asbestos in Bulk Insulation Samples" as found in 40 Code of Federal Regulations (CFR), Part 763, Subpart F, Appendix A, or the current U.S. EPA method for the analysis of asbestos in building material.
18/A02	AIRBORNE ASBESTOS ANALYSIS (TEM) U.S. Environmental Protection Agency (EPA) "Interim Transmission Electron Microscopy Analytical Methods—Mandatory and Nonmandatory—and Mandatory Section to Determine Completion of Response Actions" as found in 40 Code of Federal Regulations (CFR), Part 763, Subpart E, Appendix A.

INDEX

A

LISTING BY LABORATORY NAME

INDEX A. LISTING BY LABORATORY NAME

LABORATORY NAME	NVLAP LAB CODE	CITY	STATE/ COUNTRY
3			
3M Product Safety EMC Laboratory	200033-0	St. Paul	MN
A			
A & B Environmental Services, Inc.	101793-0	Houston	TX
A-Pex International Co., Ltd. Yamakita Laboratory	200441-0	Ashigarakami-gun	JAPAN
A-Pex International Co., Ltd. Yokowa Laboratory	200109-0	Mie-ken	JAPAN
A.E.S.L. Environmental Laboratory	200303-0	Tempe	AZ
A.O. Smith (Lexington) Engineering Laboratory	200053-0	Lexington	TN
Absolute Standards, Inc.	200390-0	Hamden	CT
Accredited Environmental Technologies, Inc.	101051-0	Media	PA
AccuStandard, Inc.	200389-0	New Haven	CT
ACM Environmental, Inc.	101977-0	South Bend	IN
Acoustic Systems Acoustical Research Facility	100286-0	Austin	TX
Adirondack Environmental Services Inc.	200552-0	Albany	NY
Advance Data Technology Corporation	200102-0	Taipei Hsien	TAIWAN
Advance Data Technology Corporation Hsin Chu EMC Laboratory	200376-0	Hsin Chu Hsien	TAIWAN
Advance Testing Company Inc.	200514-0	Campbell Hall	NY
Advanced Compliance Laboratory	200101-0	Hillsborough	NJ
Advanced Energy, Industrial Energy Laboratory	200081-0	Raleigh	NC
Advanced Industrial Hygiene Services, Inc.	101006-0	Miami	FL
Advantest Analysis Laboratory Ltd. EMC Center	200477-0	Gunma	JAPAN
Aearo Company, E·A·RCAL Acoustical Laboratory	100374-0	Indianapolis	IN
Aerospace NYLOK - a subsidiary of the NYLOK Fastener Corporation	200271-0	Hawthorne	NJ
AES International	200051-0	Santurce	PR
AGX, Inc.	101578-0	Wexford	PA
AHD	200129-0	Dowagiac	MI
Air Quality Laboratories	101580-0	Oklahoma City	OK
Aires Consulting Group, Inc.	101014-0	Batavia	IL
Airtek Environmental Corp.	102011-0	New York	NY
Akzo Nobel K.K. Kawasaki Technical Center	200300-0	Kawasaki	JAPAN
Akzo Nobel K.K., Kakegawa EMC Test Site	100290-2	Shizuoka	JAPAN
Akzo Nobel K.K., Kashima EMC Site	100290-0	Ibaraki	JAPAN
Akzo Nobel K.K., Matsuda EMC Test Site	100290-4	Kanagawa	JAPAN
Akzo Nobel K.K., Nagano EMC Test Site	100290-3	Nagano	JAPAN
Akzo Nobel K.K., Tochigi EMC Test Site	100290-5	Tochigi	JAPAN
ALAC	200323-0	New York	NY
Alpine Consulting, Inc.	102089-0	Colorado Springs	CO
AMA Analytical Services, Inc.	101143-0	Lanham	MD
Ambient Group, Inc.	101618-0	Glen Cove	NY
AMEC Earth & Environmental, Inc., PLM LAB	200444-0	Phoenix	AZ
AmerenUE, Callaway Plant	100502-0	Fulton	MO
American Asbestos Laboratories, Inc.	101775-0	Miami Lakes	FL
American Electric Power (AEP), Dolan	102102-0	Groveport	OH

LABORATORY NAME	NVLAP LAB CODE	CITY	STATE/ COUNTRY
Chemical Laboratory			
American Medical Laboratories, Inc.	101136-0	Chantilly	VA
American Testing Laboratories, Inc.	100146-0	Lancaster	PA
Analytica Solutions, Inc.	101086-0	Thornton	CO
Analytical Environmental Services	101735-0	Austin	TX
Analytical Environmental Services, Inc.	102082-0	Atlanta	GA
Analytical Labs San Francisco, Inc.	101909-0	San Francisco	CA
Analytical Products Group, Inc.	200384-0	Belpre	OH
AnalyticaLab	101727-0	Willow Springs	IL
Analytics Corporation	101004-0	Richmond	VA
Anritsu Customer Services Ltd. EMC Center	200550-0	Kanagawa-Prf.	JAPAN
APA - The Engineered Wood Association Research Center	100423-0	Tacoma	WA
Apex Research, Inc.	102118-0	Whitmore Lake	MI
Apollo Environmental, Inc.	101871-0	Gibsonton	FL
Apple Computer, Inc., EMC Compliance Laboratory	200071-0	Cupertino	CA
Applied Environmental, Inc.	101611-0	Reston	VA
Applied Laboratory Services, LLC	200515-0	Norfolk	VA
Arca Systems SEAL Common Criteria Testing Laboratory	200429-0	Columbia	MD
Architectural Testing Inc.	200361-0	York	PA
Arizona Department of Weights and Measures Metrology Laboratory	200381-0	Glendale	AZ
Arizona Public Service Co., Palo Verde Nuclear Generating Station	100536-0	Tonopah	AZ
Armstrong Acoustic Labs, Armstrong World Ind., Inc. Innov. Center	100228-0	Lancaster	PA
ASBESTECH	101442-0	Carmichael	CA
Asbestos Analysis and Information Service, Inc.	101261-0	Four Oaks	NC
Asbestos Consulting & Testing (ACT)	101649-0	Lenexa	KS
Asbestos TEM Laboratories, Inc.	101891-0	Berkeley	CA
Asbestos TEM Laboratories, Inc.	200104-0	Sparks	NV
ASC geoscience, inc.	200567-0	Fort Myers	FL
Assaigai Analytical Laboratories, Inc.	101457-0	Albuquerque	NM
AST International Environmental Consultants Inc.	200474-0	Spring Valley	CA
ATC Associates Inc.	101187-0	New York	NY
ATC Associates, Inc.	102031-0	Englewood	CO
Athenica Environmental Services, Inc.	101958-0	Long Island City	NY
Atlan Laboratories	200492-0	McLean	VA
Atomic Energy Industrial Laboratory of the Southwest, Inc.	100556-0	Houston	TX
Auditory Systems Laboratory, ISE Department, Virginia Tech	200479-0	Blacksburg	VA
Audix Technology (Shanghai) Co., Ltd.	200371-0	Shanghai	CHINA
AUDIX Technology (Shenzhen) Co., Ltd.	200372-0	Shenzhen, Guangdong	CHINA

B

BAE Systems	200425-0	Nashua	NH
BAE Systems Controls, Inc. EMI Laboratory	200142-0	Johnson City	NY
Baldor Motor Design Lab	200537-0	Fort Smith	AR
Batta Laboratories, Inc.	101032-0	Newark	DE
Battelle - Pacific Northwest National	200216-0	Richland	WA

LABORATORY NAME	NVLAP LAB CODE	CITY	STATE/ COUNTRY
Laboratory			
Bay Area Air Quality Management District	102090-0	San Francisco	CA
Bay Area Compliance Laboratory Corp.	200167-0	Sunnyvale	CA
BCAG Fastener Quality Test Lab Everett Site	200292-0	Seattle	WA
Beaulieu of America - Carpet Testing Lab	100190-0	Dalton	GA
Bechtel BWXT Idaho, Standards and Calibration Lab	200115-0	Idaho Falls	ID
Belgo-Mineira Chemical Laboratory	200497-0	35.930-900 Joao Monlevade,	BRAZIL
Bella Donna Labs Inc.	101868-0	Wauwatosa	WI
Benesol Corp.	200438-0	Sagamihara-shi, Kanagawa	JAPAN
Bentley Prince Street Testing Laboratory	100288-0	City of Industry	CA
Best Laboratory	200484-0	Taipei Hsein	TAIWAN
Binder Metal Products, Inc.	200321-0	Gardena	CA
Boeing - St. Louis Electromagnetic Compatibility Laboratory	200382-0	St. Louis	MO
BPB America, Inc.	200520-0	Clearwater	FL
Braun Intertec Corporation	101234-0	Minneapolis	MN

C

LABORATORY NAME	NVLAP LAB CODE	CITY	STATE/ COUNTRY
C.I.M.D. Engr. Dev. Lab	200522-0	Fort Wayne	IN
CA Laboratories, L.L.C.	200452-0	Baton Rouge	LA
California Screw Products	200183-0	Paramount	CA
Calvert Cliffs Nuclear Power Plant, Inc.	100501-0	Lusby	MD
CAM Environmental Services	200240-0	Pasadena	TX
Canon D5 RF Anechoic Chamber; FCC Part 15; CISPR 22/AS/NZS 3548	200478-0	Ibaraki	JAPAN
Cape Environmental Management, Inc.	102111-0	Atlanta	GA
Carolina Environmental, Inc.	101768-0	Cary	NC
Carolina Power & Light Company, Harris Energy & Enviro. Center	100517-0	New Hill	NC
Casey Products, Inc.	200278-0	Lisle	IL
CBS Fasteners, Inc.	200253-0	Anaheim	CA
CDRH X-Ray Calibration Laboratory	105018-0	Rockville	MD
Chatfield Technical Consulting Limited	101103-0	Mississauga Ontario	CANADA
Chemitox EMC Research, Inc.	200120-0	Yamanashi-ken	JAPAN
ChemScope, Inc.	101061-0	North Haven	CT
Chomerics Test Services (CTS)	100296-0	Woburn	MA
Chrisope Technologies, A Division of Remel	200388-0	Lake Charles	LA
Cisco Systems, Inc.	200114-0	San Jose	CA
City of Los Angeles Department of Water and Power	101111-0	Los Angeles	CA
City of San Jose, Materials Testing Laboratory	100325-0	San Jose	CA
Clark Seif Clark, Inc.	200324-0	Chatsworth	CA
Clayton Group Services	101106-0	Seattle	WA
Clayton Group Services	101125-0	Kennesaw	GA
COACT Inc. CAFE Laboratory	200416-0	Columbia	MD
Commercial Testing Company	100120-0	Dalton	GA
Communication Certification Laboratory	100272-0	Salt Lake City	UT
Compaq Computer Corp. EMC Test Facility	200078-0	Colorado Springs	CO
Compaq Computer Corp. Emissions Control Lab	200058-0	Houston	TX
Compaq Corporate Metrology	200154-0	Houston	TX
Compaq Regulatory Compliance Engineering - East	100413-0	Marlboro	MA

LABORATORY NAME	NVLAP LAB CODE	CITY	STATE/ COUNTRY
Compatible Electronics, Inc.	200063-0	Agoura	CA
Compatible Electronics, Inc.	200527-0	Silverado/Lake Forest	CA
Compatible Electronics, Inc.	200528-0	Brea	CA
Compliance Eng. Svces, Inc., Compliance Certification Services	200065-0	Morgan Hill	CA
Composite Panel Association (CPA)	100418-0	Gaithersburg	MD
Comprehensive Health Services-Environmental Health PLM Laboratory	101759-0	Kennedy Space Center	FL
Computer Sciences Corporation	200426-0	Annapolis Junction	MD
Concord Analysis, Inc.	101884-0	Chatsworth	CA
Connecticut Department of Public Health Laboratory	101237-0	Hartford	CT
Continental Envirotech, Inc.	200080-0	Mesa	AZ
Converse Consultants	102091-0	Reno	NV
Cooper Lighting - Metalux Research Laboratories	200050-0	Americus	GA
Cosmos Corporation	200151-0	Watarai-gun Mie	JAPAN
Covino Environmental Associates, Inc.	101781-0	Woburn	MA
Crisp Analytical Laboratory	200349-0	Carrollton	TX
Criterion Laboratories, Inc.	102046-0	Bensalem	PA
Criterion Technology Corp.	100396-0	Rollinsville	CO
CSA International	100322-0	Toronto Ontario	CANADA
CTL Environmental Services	101216-0	Harbor City	CA
Cygnacom Solutions, Inc. An Entrust Company	200002-0	McLean	VA

D

LABORATORY NAME	NVLAP LAB CODE	CITY	STATE/ COUNTRY
D.L.S. Electronic Systems, Inc.	100276-0	Wheeling	IL
DataChem Laboratories	101917-0	Cincinnati	OH
David L. Ellis Co., Incorporated	200127-0	Acton	MA
Davis & Floyd, Inc.	101410-0	Greenwood	SC
Davis Environmental Labs, Inc.	101039-0	Chicago	IL
Daybrite Lighting (Genlyte Thomas Group) Photometric Laboratory	200016-0	Tupelo	MS
Dayton T. Brown, Inc.	200422-0	Bohemia	NY
DCM Science Laboratory, Inc.	101258-0	Wheat Ridge	CO
Deka Scale, Inc., Scales and Balances	200400-0	Toledo	OH
Dell Regulatory Test Laboratories	200052-0	Round Rock	TX
Denver Instrument Co. Weight Lab	200106-0	Arvada	CO
Design for Health Environmental Services	101864-0	San Diego	CA
Detroit Edison, Fermi 2 Dosimetry Laboratory	100529-0	Newport	MI
Dexter Fastener Technologies, Inc.	200144-0	Dexter	MI
DH Analytical Services	102086-0	Stafford	TX
DHMH-Air Quality Laboratory	101523-0	Baltimore	MD
Digital EMC., Ltd.	200559-0	Kyunggi-Do	KOREA
Diviersified T.E.S.T. Technologies, Inc.	200340-0	Groton	NY
Dixon Information Inc.	101012-0	South Salt Lake	UT
DL Labs, Inc.	100252-0	New York	NY
Dodge-Regupol, Inc. Laboratory	200030-0	Lancaster	PA
Dominion Nuclear Connecticut, Inc.	100540-0	Waterford	CT
DOMUS Information Technology Security Laboratory	200017-0	Ottawa Ontario	CANADA
Dove Environmental Corporation	102053-0	Miami	FL

LABORATORY NAME	NVLAP LAB CODE	CITY	STATE/ COUNTRY
Dow Chemical N. America Foam Products Research, Prod. Perf. Lab.	100103-0	Midland	MI
Duke Engineering and Services Environmental Laboratory	100524-0	Westborough	MA
Duke Power Company Dosimetry Laboratory	100505-0	Charlotte	NC
Dwight D.I.C., Inc.	200405-0	Lyndhurst	NJ

E

LABORATORY NAME	NVLAP LAB CODE	CITY	STATE/ COUNTRY
E. M. Analytical, Inc.	101902-0	Dania	FL
EA Group	101019-0	Mentor	OH
EAI, Inc.	102114-0	Jersey City	NJ
Eastern Analytical Services, Inc.	101646-0	Elmsford	NY
Eastern Materials Testing Lab a division of Jaworski Geotech	100315-0	Berlin	CT
Eastman Kodak Co.- EMC Facility	200313-0	Rochester	NY
Eaton Corporation Innovation Center	200182-0	Southfield	MI
Eaton E3 Laboratory	100382-0	Southfield	MI
EcoSystems Environmental, Inc.	101162-0	Carrollton	TX
Electro Magnetic Test, Inc.	200147-0	Mountain View	CA
Electronic Automation	200410-0	Grand Rapids	MI
Electronic Research & Service Organization/ITRI	200118-0	Chutung Hsinchu	TAIWAN
Electronics Test Centre	200282-0	Kanata, Ont.	CANADA
Electronics Testing Center, Taiwan	200133-0	Taoyuan Hsien	TAIWAN
Elite Electronic Engineering Inc.	100278-0	Downers Grove	IL
Elliott Laboratories, Inc.	200069-0	Sunnyvale	CA
EMC Compliance Mgmt Group, dba Turntech Scientific & Instr., Inc.	200068-0	Mountain View	CA
EMC Corporation	100339-0	Westboro	MA
EMCE Engineering, Inc.	200092-0	Fremont	CA
EMS Laboratories, Inc.	101218-0	Pasadena	CA
EMSL Analytical Inc. Bulk And Airborne Asbestos Fiber Analysis	200399-0	Chicago	IL
EMSL Analytical Inc. Mobile Laboratory	200481-0	Westmont	NJ
EMSL Analytical, Inc.	101048-0	Westmont	NJ
EMSL Analytical, Inc.	101048-1	Atlanta	GA
EMSL Analytical, Inc.	101048-2	Piscataway	NJ
EMSL Analytical, Inc.	101048-3	Milpitas	CA
EMSL Analytical, Inc.	101048-4	Ann Arbor	MI
EMSL Analytical, Inc.	101048-9	New York	NY
EMSL Analytical, Inc.	101048-10	Carle Place	NY
EMSL Analytical, Inc.	101151-0	Orlando	FL
EMSL Analytical, Inc.	102104-0	Greensboro	NC
EMSL Analytical, Inc.	102106-0	Houston	TX
EMSL Analytical, Inc.	200019-0	Minneapolis	MN
EMSL Analytical, Inc.	200034-0	Dallas	TX
EMSL Analytical, Inc.	200056-0	Depew	NY
EMSL Analytical, Inc.	200188-0	Indianapolis	IN
EMSL Analytical, Inc.	200204-0	N. Miami Beach	FL
EMSL Analytical, Inc.	200293-0	Beltsville	MD
EMSL Analytical, Inc.	200333-0	Elmsford	NY
EMSL Analytical, Inc.	200375-0	Baton Rouge	LA
ENCORP	200013-0	El Segundo	CA
Enterasys Networks Inc.	200121-0	Nashua	NH
Entergy Nuclear Northeast	100538-0	Buchanan	NY

LABORATORY NAME	NVLAP LAB CODE	CITY	STATE/ COUNTRY
Enviro-Probe, Inc.	101222-0	Bronx	NY
Envirocheck, Inc.	200548-0	Garden Grove	CA
EnviroHealth Technologies, Inc.	200374-0	St. Louis	MO
EnviroMed Services, Inc.	101514-0	New Haven	CT
Environmental and EMC Test Centre	200304-0	Kent	UNITED KINGDOM
Environmental Enterprise Group(EEG), Inc.	101587-0	Russellville	AR
Environmental Hazards Services, L.L.C.	101882-0	Richmond	VA
Environmental Health Laboratories	101506-0	Clayton	MO
Environmental Management Consultants, Inc.	101926-0	Scottsdale	AZ
Environmental Resource Associates (ERA)	200386-0	Arvada	CO
Environmental Science Services, Inc.	200424-0	Lockeford	CA
Environmental Testing and Monitoring Services, Inc.	200131-0	Virginia Beach	VA
Environmental Testing, Inc.	101848-0	Middletown	DE
EnvironMETeo Services Inc.	101807-0	Waipahu	HI
Enviroscience Consultants, Inc.	200531-0	Ronkonkoma	NY
Envirotest, Inc.	101595-0	Houston	TX
ERI Consulting Engineers, Inc.	101232-0	Tyler	TX
ESG Laboratories	102029-0	Indianapolis	IN
EWA - Canada Ltd, IT Security Evaluation Facility	200556-0	Ottawa Ontario	CANADA

F

LABORATORY NAME	NVLAP LAB CODE	CITY	STATE/ COUNTRY
Fairfield Testing Laboratory, Inc.	100317-0	Stamford	CT
Fairway Testing Company, Inc.	100340-0	Stony Point	NY
Family Analytical Laboratory Services, Inc.	200448-0	Denver	CO
Fastener Innovation Technology, Inc.	200179-0	Gardena	CA
Fiberquant, Inc.	101031-0	Phoenix	AZ
Fibertec, Inc.	101510-0	Holt	MI
Flextronics Compliance Laboratories	200094-0	Youngsville	NC
Florida Power & Light Company	100544-0	Juno Beach	FL
Fluke Corporation Primary Standards Laboratory	105016-0	Everett	WA
Fluor Fernald, Inc., Analytical Laboratory Services	102010-0	Cincinnati	OH
Fong Prean Industrial Co., Ltd.	200288-0	Kaohsiung Hsien	TAIWAN
Forensic Analytical	101459-0	Hayward	CA
Forensic Analytical Specialties, Inc.	101459-1	Rancho Dominguez	CA
Fort Polk Environmental Laboratory	200523-0	Fort Polk	LA
FRS Geotech, Inc.	102078-0	Denver	CO
Fuji Buhin Industries Inc.	200203-0	Ohta Gunma	JAPAN
Fuji Component Parts USA, Inc.	200180-0	Indianapolis	IN
Fujitsu Evaluation Engineering Laboratory	200281-0	Numazu, Shizuoka-Pref.	JAPAN
Fujitsu General EMC Laboratory	200373-0	Kawasaki	JAPAN

G

LABORATORY NAME	NVLAP LAB CODE	CITY	STATE/ COUNTRY
Galson Laboratories	101375-0	East Syracuse	NY
Garwood Laboratories, Inc.	200119-0	Placentia	CA
GE Industrial Systems	200029-0	Rome	NY
GE Lighting- Product Testing	100398-0	Cleveland	OH
GE Owensboro Test Laboratory	200305-0	Owensboro	KY
Gelles Laboratories, Division, CC Technologies	101170-0	Dublin	OH
General Dynamics Decision Systems	100405-0	Scottsdale	AZ
General Dynamics, Electric Boat	100560-0	Groton	CT

LABORATORY NAME	NVLAP LAB CODE	CITY	STATE/ COUNTRY
GeoCorp Industrial Controls, Inc.	200496-0	Huron	OH
Georgia Power Company/Enviro. Affairs, Enviro. Lab-Dosimetry	100551-0	Smyrna	GA
Geoscience Ltd.	100142-0	San Diego	CA
Ginna Nuclear Station	100514-0	Ontario	NY
GLE Associates, Inc.	102003-0	Tampa	FL
Global EMC Standard Tech. Corp.	200085-0	Taipei County	TAIWAN
Global Testing	200436-0	Santa Ana	CA
Globeteck Group, Inc.	200541-0	Honolulu	HI
H			
Harris Corporation GCSD EMI Test Laboratory	200500-0	Melbourne	FL
Hart Scientific Calibration Laboratory	200348-0	American Fork	UT
Health Science Associates	101384-0	Los Alamitos	CA
Henry Troemner, LLC	105013-0	Thorofare	NJ
Hewlett Packard, Product Test Lab, San Diego	200138-0	San Diego	CA
Hi-Tech Environmental and Laboratory Services	102013-0	Cypress	CA
HIH Laboratory, Inc.	101233-0	Webster	TX
Hillmann Environmental Group, L.L.C.	101421-0	Union	NJ
Hitachi Information Technology Co., Ltd.	200186-0	Kanagawa	JAPAN
Holmes Environmental, Inc.	200467-0	Norfolk	VA
HomeTek Technology Inc.	200331-0	Taipei Shien	TAIWAN
Honeywell FM&T Metrology	200108-0	Kansas City	MO
Houston Analytical Laboratory	200473-0	Houston	TX
Howard Leight Acoustical Testing Laboratory	200475-0	San Diego	CA
Hubbell Lighting Photometric Laboratory	200020-0	Christiansburg	VA
Hufcor Acoustical Laboratory	100239-0	Janesville	WI
Hygeia Laboratories Inc.	102116-0	Sierra Madre	CA
Hygeia Laboratories, Inc.	102087-0	Marietta	GA
Hygeia Laboratories, Inc.	200335-0	Miami	FL
HYGENIX, INC.	101199-0	Stamford	CT
Hygieneering, Inc.	101997-0	Willowbrook	IL
Hygienetics Laboratory Services	101147-0	Boston	MA
I			
IAPMO Testing and Services, L.L.C.	200460-0	Walnut	CA
IBM Austin EMC	200112-0	Austin	TX
IBM Endicott EMC Lab	200418-0	Endicott	NY
IBM Hudson Valley Acoustics Laboratory	100323-0	Poughkeepsie	NY
IBM Poughkeepsie EMC Laboratory	200435-0	Poughkeepsie	NY
IBM Rochester EMC Lab	200091-0	Rochester	MN
IBM RTP PSG EMC Test Labs	200200-0	Research Triangle Park	NC
IBM Shock and Vibration Laboratory	200503-0	Poughkeepsie	NY
IBM Yamato EMC Engineering	200198-0	Yamato Kanagawa	JAPAN
ICN Worldwide Dosimetry Service, Div. of ICN Biomedicals, Inc.	100555-0	Costa Mesa	CA
IIT Research Institute/R&B Operation	100280-0	West Conshohocken	PA
Independent Materials Testing Laboratories, Inc.	100316-0	Plainville	CT
Independent Textile Testing Service, Inc.	100166-0	Dalton	GA
Indiana Division of Weights and Measures	200421-0	Indianapolis	IN

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LABORATORY NAME	NVLAP LAB CODE	CITY	STATE/ COUNTRY
Industrial Acoustics Company, Inc., Aero-Acoustics Laboratory	100404-0	Bronx	NY
Industrial Laboratory	102115-0	Portsmouth	VA
INEEL Materials Testing Lab CFA 602	200415-0	Idaho Falls	ID
InFocus Systems, Inc.	200152-0	Wilsonville	OR
InfoGard Laboratories, Inc.	100432-0	San Luis Obispo	CA
Ingersoll Fasteners	200208-0	Ingersoll Ontario	CANADA
Inland Foundation Engineering, Inc.	100406-0	San Jacinto	CA
Institute for Environmental Assessment	101249-0	Brooklyn Park	MN
Instron Field Calibration Laboratory	200301-0	Canton	MA
Instron Force Calibration Laboratory	105023-0	Canton	MA
Integrex Testing Systems -Acoustic & Thermal Testing Laboratories	100109-0	Granville	OH
Interface Testing Laboratory	200402-0	LaGrange	GA
Intermec Technologies Corporation	100269-0	Cedar Rapids	IA
International Asbestos Testing Laboratory	101165-0	Mt. Laurel	NJ
International Standards Laboratory	200234-0	Tao Yaun County	TAIWAN
International Technology Company (ITC)	200172-0	Sunol	CA
Interocean EMC Technology Corp.	200458-0	Taipei County	TAIWAN
Intertek Testing Services	200201-0	Menlo Park	CA
Intertek Testing Services NA Inc.	100274-0	Lexington	KY
Intertek Testing Services NA Inc.	100402-0	Cortland	NY
Intertek Testing Services NA Inc.	200297-0	Laguna Niguel	CA
Intertek Testing Services NA, Inc.	200049-0	Oakdale	MN
Inventec Corp. (Taoyuan) EMC Labs	200140-0	Taoyuan	TAIWAN
Iowa Environmental Services, Inc.	101990-0	Des Moines	IA
IPS Corporation	200012-0	Nagano	JAPAN
Ivaco Rolling Mills, Chemistry Laboratory	200143-0	L'Orignal Ontario	CANADA

J

J3 Resources, Inc.	200525-0	Houston	TX
Japan Quality Assurance Org. Chubu Testing Center Shikatsu Branch	200190-0	Aichi	JAPAN
Japan Quality Assurance Org. Safety & EMC Ctr. Tsuru EMC Branch	200192-0	Yamanashi	JAPAN
Japan Quality Assurance Organization Kita-Kansai Testing Center	200191-0	Osaka	JAPAN
Japan Quality Assurance Organization Safety & EMC Center	200189-0	Tokyo	JAPAN
JLC Environmental Consultants, Inc.	101953-0	New York	NY
JMR Compliance Engineering	200413-0	Chatsworth	CA
JMR Environmental Services Inc.	200067-0	San Diego	CA
JMS Environmental Associates, Ltd.	102012-0	Westmont	IL
Johns Manville Technical Center	100425-0	Littleton	CO

K

KAM Consultants	102047-0	Long Island City	NY
Kansai Electronic Industry Development Center, Ikoma Testing Lab.	200207-0	Ikoma Nara	JAPAN
Kellco Services, Inc.	101331-0	Hayward	CA
Kevco Services, Inc.	101941-0	Butler	PA
Key Tronic Corp.	200096-0	Spokane	WA
Kingston Environmental Laboratory	200041-0	Lee's Summit	MO
Knauf Fiber Glass Research Laboratory	100248-0	Shelbyville	IN
Kobelco Research Institute, Inc. Stock	200169-0	Kobe 657-0863	JAPAN

LABORATORY NAME	NVLAP LAB CODE	CITY	STATE/ COUNTRY
Company			
KSL	200442-0	Jackson	CA
Kyowa Kogyosyo Co., Ltd. Test Laboratory	200274-0	Komatsu City, Ishikawa	JAPAN
Kyushu Matsushita Electric Test Lab EMC Center	200364-0	Tosu-shi Saga-ken	JAPAN

L

LABORATORY NAME	NVLAP LAB CODE	CITY	STATE/ COUNTRY
LA Testing	200232-0	S. Pasadena	CA
Lab/Cor, Inc.	101920-0	Seattle	WA
Laird Group PLC	200076-0	Delaware Water Gap	PA
Landauer, Inc.	100518-0	Glenwood	IL
Larron Laboratory	101415-0	Cape Girardeau	MO
Law Engineering and Environmental Services, Inc.	101066-0	Birmingham	AL
Law Engineering and Environmental Services, Inc.	101515-0	Tampa	FL
Law Engineering and Environmental Services, Inc.	101515-1	Miami Lakes	FL
Law Engineering and Environmental Services, Inc.	102035-0	Phoenix	AZ
Legend Technical Services, Inc.	102081-0	St. Paul	MN
Leland-Powell Fasteners, Inc. Fastener Testing Laboratory	200171-0	Martin	TN
Levecque Technical Center	100101-0	Blue Bell	PA
LEX Scientific Inc.	101949-0	Guelph Ontario	CANADA
LG Electronics, Inc., Quality and Reliability Center	200040-0	Seoul	KOREA
Liberty Labs, Inc.	200123-0	Kimballton	IA
Lighting Research Center Lighting Products	200480-0	Troy	NY
Litetronics International	200504-0	Alsip	IL
Lithonia Testing Laboratories	200007-0	Conyers	GA
Loflin Environmental Services,Inc.	102044-0	Houston	TX
Los Angeles Unified School District	101505-0	Los Angeles	CA
Louisiana Department of Environmental Quality Microanalytical Lab	102000-0	Baton Rouge	LA
Lucent Technologies, Global Product Compliance Lab	100275-0	Holmdel	NJ

M

LABORATORY NAME	NVLAP LAB CODE	CITY	STATE/ COUNTRY
m.a.c. Paran Consulting Services, Inc.	102108-0	Amelia	OH
MAC Fasteners, Inc.	200141-0	Ottawa	KS
MacLean Fasteners - QC Laboratory	200153-0	Mundelein	IL
MacLean Maynard Laboratory Services	200451-0	Chesterfield Township	MI
MACS Lab, Inc.	101948-0	Santa Clara	CA
Maine Metrology Department of Agriculture	200414-0	Augusta	ME
Mallinckrodt, Inc.	100503-0	Maryland Heights	MO
Marathon Electric - Wausau Engineering Lab.	200134-0	Wausau	WI
Marlin Manufacturing Corporation	200512-0	Cleveland	OH
Materials Analytical Services, Inc.	101235-0	Suwanee	GA
Materials Testing, Inc.	100320-0	Milford	CT
Matsushita EMC Center	100428-0	Sasayama, Hyogo	JAPAN
McCall and Spero Environmental, Inc.	101895-0	Louisville	KY
McGill AirFlow Corp. Airflow and Acoustical Testing Laboratory	200463-0	Westerville	OH
McKee Environmental Health, Inc.	101135-0	Friendswood	TX

LABORATORY NAME	NVLAP LAB CODE	CITY	STATE/ COUNTRY
MDS Nordion Dosimetry Laboratory	200370-0	Kanata Ontario	CANADA
MET Laboratories Incorporated	200445-0	Union City	CA
MET Laboratories, Inc.	100273-0	Baltimore	MD
Metrology Concepts Inc., dba Tri-State Calibration	200505-0	Antioch	IL
Metroplex Metrology Lab, Inc.	200262-0	Fort Worth	TX
Michael & Associates	100427-0	State College	PA
Michigan Dept. of Agriculture, E.C. Heffron Metrology Laboratory	200408-0	Williamston	MI
Micro Air of Texas, Inc.	102008-0	Houston	TX
Micro Air, Inc.	101221-0	Indianapolis	IN
Micro Analytical Laboratories, Inc.	101872-0	Emeryville	CA
Micro Analytical, Inc.	101247-0	Milwaukee	WI
Microcheck, Inc.	200391-0	Northfield	VT
Micron Environmental Labs	200294-0	Arcadia	CA
Microscopic Analysis, Inc.	101037-0	St. Louis	MO
Midwest Laboratories, Inc.	101894-0	Countryside	IL
Minebea Co., Ltd. Fujisawa Manufacturing Unit	200229-0	Fujisawa, Kanagawa	JAPAN
Minnesota Metrology Laboratory	105003-0	St. Paul	MN
Minolta Co., Ltd. Toyokawa EMC Lab	200434-0	Toyokawa, Aichi	JAPAN
Missouri Department of Transportation, Chemical Laboratory	200544-0	Jefferson City	MO
Mitsubishi Digital Electronics America, Inc. EMC Test Lab	200498-0	Irvine	CA
Modern Plating Corporation	200320-0	Freeport	IL
Mohawk Industries, Inc.- Lyerly Plant	100156-0	Lyerly	GA
Motor Test Lab of Toshiba Industrial Products Manufacturing Corp.	200529-0	Asahi-cho Mie-gun Mie-ken	JAPAN
Motorola Test Lab Services	200005-0	Mansfield	MA
Mountain Laboratories	101890-0	Spokane	WA
Murata Mfg. Co., Ltd. Yokohama Technical Center EMM Office	200263-0	Kanagawa	JAPAN
Mystic Air Quality Consultants, Inc.	101282-0	Groton	CT

N

LABORATORY NAME	NVLAP LAB CODE	CITY	STATE/ COUNTRY
NAHB Research Center, Inc.	100104-0	Upper Marlboro	MD
NASA John H. Glenn Research Center at Lewis Field	200130-0	Cleveland	OH
National Econ Corporation	102062-0	Tustin	CA
National Econ Corporation	200047-0	Memphis	TN
National Environmental Reference Laboratory	101593-0	Denver	CO
National Technical Systems	100347-0	Boxborough	MA
National Technical Systems	200245-0	Plano	TX
Naval Dosimetry Center	100504-0	Bethesda	MD
Naval Nuclear Propulsion Program Directorate, Washington, DC	100565-0	Bremerton	WA
NAWC-Aircraft Div. Lakehurst Electromagnetic Interference Lab.	200222-0	Lakehurst	NJ
NAWCAD 5.1.7.4. EMI Lab	100408-0	Patuxent River	MD
NCR Corp. San Diego EMC Lab	200383-0	San Diego	CA
NEC Access Technica, Ltd. EMC Center	200488-0	Shizuoka-ken	JAPAN
NEC Kofu, Ltd., EMC Center	200433-0	Yamanashi	JAPAN
Nemko Dallas, Inc.	100426-0	Lewisville	TX

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LABORATORY NAME	NVLAP LAB CODE	CITY	STATE/ COUNTRY
Nemko EESI, Inc.	200116-0	San Diego	CA
Netzsch Instruments, Inc.	100113-0	Bedford	MA
Neutron Engineering Inc.	200145-0	Taipei	TAIWAN
Newport News Shipbuilding Radiological Control Department	100561-0	Newport News	VA
NGC Testing Services, National Gypsum Research Center	200291-0	Buffalo	NY
Niigata Fuji Xerox Manufacturing Co., Ltd. EMC Group	200490-0	Niigata	JAPAN
Nortel Networks BVW Lab	200098-0	Belleville, Ontario	CANADA
Northern Analytical Laboratories, Inc.	101292-0	Billings	MT
Northern Industrial Hygiene, Inc.	200511-0	Burien	WA
Northern Testing Laboratories, Inc.	101463-0	Fairbanks	AK
Northwest EMC, Inc.	200059-0	Hillsboro	OR
Nova Consulting Group, Inc.	101545-0	Chaska	MN
NOVA Machine Products	200202-0	Middleburg Heights	OH
Nowicki & Associates, Inc.	200322-0	Federal Way	WA
NSI Solutions, Inc.	200440-0	Raleigh	NC
NVL Laboratories, Inc.	102063-0	Seattle	WA
NY Environmental & Analytical Labs, Inc.	101967-0	Port Washington	NY
NYLOK Fastener Corporation	200272-0	Anaheim	CA
NYS DOH Environmental Laboratory Approval Program	200387-0	Albany	NY

O

LABORATORY NAME	NVLAP LAB CODE	CITY	STATE/ COUNTRY
O & K Company Limited, Osaka Test Center	200166-0	Osaka-Shi	JAPAN
O'Brien & Gere Laboratories, Inc.	101343-0	Syracuse	NY
Oak Ridge Metrology Center	105000-0	Oak Ridge	TN
Occupational Health Conservation, Inc.	102050-0	Jacksonville	FL
Ohio E.M.A. Radiological Instrument Calibration Facility	200419-0	Columbus	OH
Ohtama Co., Ltd. Yamanashi EMC Test Site	200175-0	Yamanashi	JAPAN
Okawa Laboratory	200296-0	Naka-gun, Ibaraki-ken	JAPAN
Oki Engineering Co., Ltd. EMC Honjo Center	200519-0	Honjo-shi, Saitama	JAPAN
Oklahoma Bureau of Standards	200396-0	Oklahoma City	OK
Olympus EMC Laboratory	200472-0	Tokyo	JAPAN
Omega Environmental Services	101289-0	Hackensack	NJ
Omni Environmental, Inc.	102061-0	Austin	TX
Orfield Laboratories, Inc.	200248-0	Minneapolis	MN
ORIX Rentec EMC Center; Electromagnetic Compatibility	200404-0	Aiko-Gun, Kanagawa	JAPAN
Osram Sylvania, Applications & Measurements Laboratory	100403-0	Beverly	MA

P

LABORATORY NAME	NVLAP LAB CODE	CITY	STATE/ COUNTRY
PA DEP Bureau of Laboratories	101323-0	Harrisburg	PA
Pacific Gas & Electric Company, Diablo Canyon Nuclear Power Plant	100537-0	Avila Beach	CA
Pacific Northwest National Laboratory / Battelle	105020-0	Richland	WA
Pacific Rim Environmental, Inc.	101631-0	Tukwila	WA
Palmetto Laboratory, Inc.	102077-0	St. Petersburg	FL
Paradigm Environmental Services, Inc.	200530-0	Rochester	NY
Paradyne Corporation	200125-0	Largo	FL

(See 'How To Use This Directory' on page 7.)

LABORATORY NAME	NVLAP LAB CODE	CITY	STATE/ COUNTRY
Patriot Environmental Laboratory Services, Inc.	200358-0	Garden Grove	CA
PB Fasteners	200139-0	Gardena	CA
PCI Industries Acoustical Testing Laboratories	200453-0	Fort Worth	TX
PCTEST Engineering Laboratory, Inc.	100431-0	Columbia	MD
PDE Laboratories	200082-0	San Clemente	CA
PEP Testing Laboratory	200097-0	Taipei Hsien	TAIWAN
PFS Corporation	100421-0	Madison	WI
PFU TECHNOCONSUL EMC Center	200259-0	Ishikawa-Ken	JAPAN
Philip Environmental Services Corp.	101192-0	Columbia	IL
Philip Morris Standards and Calibration Laboratory	200359-0	Richmond	VA
Philips Electronics Industries (TAIWAN) Ltd.	200137-0	Chungli, Taoyuan	TAIWAN
Philips Lighting Corporate Calibration & Standards Laboratory	100399-0	Salina	KS
Philips Testing Service	200409-0	Knoxville	TN
Pinchin Environmental Ltd.	101270-0	Mississauga Ontario	CANADA
PMK Group, Inc.	101301-0	Cranford	NJ
PPL Susquehanna, LLC	100554-0	Allentown	PA
Pratt & Whitney Materials Control Lab/Quality & Standards Lab	200336-0	East Hartford	CT
Professional Service Industries, Inc., Pittsburgh Test. Lab. Div.	100430-0	Eugene	OR
Professional Testing (EMI), Inc.	200062-0	Round Rock	TX
Professional Testing Laboratory, Inc.	100297-0	Dalton	GA
ProScience Analytical Services, Inc.	200090-0	Woburn	MA
Prospect Testing Labs, Inc.	200328-0	Des Plaines	IL
Protocol Analytical Supplies, Inc.	200395-0	Middlesex	NJ
Prottsa, S.A. de C.V.	200261-0	Mexico City	MEXICO
Proxtronics, Inc.	100573-0	Springfield	VA
PSC Analytical Services	101262-0	Reading	PA
PSI	101350-0	Pittsburgh	PA
Puget Sound Naval Shipyard	101539-0	Bremerton	WA
PWC Environmental Laboratory, Pearl Harbor	200369-0	Pearl Harbor	HI
Pyromation Inc. Metrology Laboratory	200502-0	Fort Wayne	IN

Q

QuanTEM Laboratories, LLC	101959-0	Oklahoma City	OK
Quest Engineering Solutions, Inc.	200036-0	N. Billerica	MA
Quest MicroAnalytics	200249-0	Dallas	TX
Quietek Corporation	200347-0	Hsin-Chu Country	TAIWAN
Quitek Corporation	200533-0	Lin Kou Shiang, Taipei	TAIWAN

R

R & D Services, Inc.	200265-0	Cookeville	TN
R. Robinson Analytical Services, Inc.	102041-0	Pensacola	FL
Radiation Detection Company	100512-0	Gilroy	CA
Radiation Laboratory, Taiwan Power Company	100562-0	Shihmen, Taipei	TAIWAN
Ram Industries Motor Test Laboratory	200542-0	Leesport	PA
Raytheon Electronic Systems,California Engineering EEE Laboratory	200431-0	El Segundo	CA

(See 'How To Use This Directory' on page 7.)

LABORATORY NAME	NVLAP LAB CODE	CITY	STATE/ COUNTRY
Raytheon Technical Services Co. EMI Laboratory	200317-0	Indianapolis	IN
RCM Laboratories, Inc.	101853-0	Countryside	IL
Regal Beloit Motor Technologies Group - Grafton Engineering Lab	200483-0	Grafton	WI
Reservoirs Environmental Services, Inc.	101896-0	Denver	CO
RESL - DOE Laboratory Accreditation Program	200366-0	Idaho Falls	ID
Resource Technology Corporation (RTC)	200393-0	Laramie	WY
Retlif Testing Laboratories	100267-0	Ronkonkoma	NY
Retlif Testing Laboratories	100267-1	Goffstown	NH
Rhein Tech Laboratories, Inc.	200061-0	Herndon	VA
RI Analytical Laboratories, Inc.	101440-0	Warwick	RI
Rice Lake Weighing Systems	105001-0	Rice Lake	WI
Ricoh Company LTD. Ohmori Acoustics Test Site	200345-0	Tokyo	JAPAN
Ricoh Company, Ltd. Ohmori EMC Center	200163-0	Tokyo	JAPAN
Riverbank Acoustical Laboratories	100227-0	Geneva	IL
RJ Lee Group, Inc.	101208-0	Monroeville	PA
RJ Lee Group, Inc.	101208-2	San Leandro	CA
RJ Lee Group, Inc.	101208-3	Manassas	VA
RMS EMI Laboratory MIL-STD 462C/D	200489-0	Tucson	AZ
Rockford Bolt & Steel Co.	200255-0	Rockford	IL
Rogers Labs, Inc.	200087-0	Louisburg	KS
Roy F. Weston, Inc.	101254-0	Auburn	AL
Ruska Calibration Laboratory	200491-0	Houston	TX

S

LABORATORY NAME	NVLAP LAB CODE	CITY	STATE/ COUNTRY
S&ME, Inc.	102075-0	Charlotte	NC
S. Himmelstein and Company	200487-0	Hoffman Estates	IL
Safe Environment of America, Inc.	102021-0	Auburn	WA
SAIC Accredited Lab Center for Evaluation & Testing (SALCET)	200427-0	Columbia	MD
Samsung Electronics EMC Laboratory	200447-0	Suwon, Kyungki Do	KOREA
San Shing Hardware Works Co., Ltd. Test Laboratory	200158-0	Tainan	TAIWAN
Sandia National Laboratories	105002-0	Albuquerque	NM
Sanmina Homologation Services	100411-0	San Jose	CA
Saturn Fasteners, Inc.	200327-0	Burbank	CA
Schneider Laboratories, Inc.	101150-0	Richmond	VA
Scientific Laboratories, Inc.	101904-0	Midlothian	VA
Scientific Laboratories, Inc.	101904-1	New York	NY
Scientific Laboratories, Inc.	200546-0	New York	NY
SCILAB BOSTON, Inc.	102079-0	East Weymouth	MA
SCILAB California, Inc.	200346-0	Carson	CA
SE Laboratories, Inc.	200338-0	Santa Clara	CA
Seiko Epson Corporation	200157-0	Shiojiri-City Nagano	JAPAN
SGS U.S. Testing Company, Inc.	100416-0	Tulsa	OK
Shanghai Testing & Inspection Institute for Electrical Equipment	200407-0	Shanghai	CHINA
Sharp Nara EMC Center, EMI Measurement for ITE	200457-0	Yamatokooriyama-shi Nara	JAPAN
Shaw Industries, Inc., Central Laboratory Operations	100193-0	Dalton	GA
SK Tech Co., LTD.	200220-0	Namyangju-si, Kyunggi-Do	KOREA

LABORATORY NAME	NVLAP LAB CODE	CITY	STATE/ COUNTRY
Small IAC Test Laboratory	200287-0	Peterborough, ON	CANADA
SNB Laboratory	200308-0	Cumberland	RI
Solar Environmental Services, Inc.	102006-0	Anchorage	AK
Sony Electronics Inc. Product Quality Division EMC Group	200312-0	San Diego	CA
Sony EMCS Corp. Kohda TEC	200398-0	Nukata-gun Aichi	JAPAN
Sony EMCS Corporation Minokamo TEC	200368-0	Gifu-Pref.	JAPAN
Sony EMCS Saotama TEC EMC Test Laboratory	200456-0	Saitama-ken	JAPAN
Sony Kisarazu EMC Test Laboratory	200432-0	Kisarazu Chiba	JAPAN
Sony Nagano EMC Test Laboratory	200553-0	Nagano-ken	JAPAN
South Coast Air Quality Management District	101567-0	Diamond Bar	CA
South Texas Project Dosimetry Laboratory	100519-0	Wadsworth	TX
Southern California Edison Company	105014-0	Westminster	CA
Special Testing Laboratories, Inc.	100308-0	Bethel	CT
Spectrum Research & Testing Laboratory, Inc.	200099-0	Chung-Li, Taoyuan	TAIWAN
Spex Certiprep Inc.	200392-0	Metuchen	NJ
Sporton International, Inc.	200079-0	Taipei Hsien	TAIWAN
St. of California, Bur. of Home Furnishings & Thermal Insulation	100251-0	North Highlands	CA
STAT Analysis Corporation	101202-0	Chicago	IL
State of Virginia Metrology Lab	105007-0	Richmond	VA
STERIS-Isomedix Services	200235-0	Morton Grove	IL
Steve Moody Micro Services, Inc.	102056-0	Carrollton	TX
Storagtek Open Area Test Site	200251-0	Louisville	CO
Stork-Twin City Testing Corporation	200046-0	St. Paul	MN
Strategic Weapons Fac. Pacific Cal. Lab. Oper. by Lockheed Martin	200406-0	Silverdale	WA
Strom Environmental	200450-0	Denver	CO
STS Consultants, Ltd.	100191-0	Vernon Hills	IL
Sumitomo Metals (Kokura), Ltd. Quality System Section	200215-0	Kitakyushu	JAPAN
Sun City Analytical, Inc.	101870-0	El Paso	TX
Sun Microsystems, Inc. EMC Testing	200363-0	Palo Alto	CA
Sundram Fasteners Limited (Inhouse test laboratory)	200212-0	Chennai (Madras),Tamil Nadu	INDIA
Sundram Fasteners Limited Chemical Testing Laboratory	200256-0	Andhra Pradesh	INDIA
SWFLANT Calibration Laboratory Operated by Lockheed Martin	200403-0	Kings Bay	GA
Syonan Site Testing Laboratory as Conducted & Radiated Emissions	200482-0	Kanagawa	JAPAN

T

LABORATORY NAME	NVLAP LAB CODE	CITY	STATE/ COUNTRY
Taiwan Tokin EMC Eng. Corp.	200077-0	Taipei	TAIWAN
Taylor Environmental Group, Inc.	102101-0	Floral Park	NY
TDK Corporation's 10m Anechoic Chamber & 3m Anechoic Chamber	200309-0	Ichikawa-shi, Chiba-ken	JAPAN
TDK Corporation's Chikumagawa Open Site	200319-0	Saku-shi, Nagano-ken	JAPAN
TDK RF Solutions Inc.	200430-0	Cedar Park	TX
TEAC Corporation EMC Center	200362-0	Saitama-ken 358-8510	JAPAN
TEC-AN, Inc.	200325-0	Oklahoma City	OK
Technical Calibration Labs, Inc.	200459-0	Monroe	NY
TECO Electric & Machinery Co., Ltd.	200378-0	Taoyuan	TAIWAN

LABORATORY NAME	NVLAP LAB CODE	CITY	STATE/ COUNTRY
Teco Industry (Malaysia) SDN. BHD.	200476-0	Penang	MALAYSIA
TEM, Incorporated	101130-0	Glen Ellyn	IL
Tennessee Valley Authority External Dosimetry Service	100516-0	Soddy-Daisy	TN
Test Site Services, Inc.	100419-0	Marlboro	MA
Test-Con Incorporated	200018-0	Danbury	CT
Testing Mechanics Corp.	102001-0	Seaford	NY
Testwell Laboratories, Inc./Testwell Industries, Inc.	200083-0	Ossining	NY
The Dow Chemical Company- NA System House-Joliet	100210-0	Joliet	IL
The Scott Lawson Group, Ltd.	101228-0	Concord	NH
Thermo Spectronic	200462-0	Cambridge	UNITED KINGDOM
Timberco, Inc.- dba TECO	100420-0	Eugene	OR
Tokin EMC Engineering Co., Ltd. Kawasaki Facility	200217-0	Kawasaki-city, Kanagawa	JAPAN
Tokin EMC Engineering Co., Ltd. Nagoya Testing Laboratory	200219-0	Daian-cho, Inabe-gun, Mie	JAPAN
Tokin EMC Engineering Co., Ltd. Osaka Testing Laboratory	200218-0	Sanda-city, Hyogo	JAPAN
Tokin EMC Engineering Co., Ltd. Tsukuba Testing Laboratory	200221-0	Tsukuba-city, Ibaraki	JAPAN
TolTest, Inc.	101594-0	Toledo	OH
Toshiba Corp., Ome Operations	200107-0	Ome Tokyo	JAPAN
Toshiba/Houston Test Laboratory	200088-0	Houston	TX
Training Research Co., Ltd.	200174-0	Taipei Hsien	TAIWAN
TRC Environmental Corporation	101424-0	Windsor	CT
Tremco, Inc. - Roofing Division, An RPM Company	101188-0	Beachwood	OH
Tri-State Materials Testing Lab, Inc.	200010-0	Wallingford	CT
Triad Environmental Consulting, Inc.	102073-0	Huntington	WV
Troxler Radiation Monitoring Svc. a div. of Troxler Elect. Labs	100559-0	Research Triangle Park	NC
TSi, Testing Services, Inc.	100108-0	Dalton	GA
TUV Product Service, Inc.	100268-0	San Diego	CA
TUV Product Service, Inc.	100271-1	Boulder	CO
TUV Product Service, Inc.- A Division of TUV America Inc.	100271-0	New Brighton	MN
TUV Rheinland of North America, Inc.	200111-0	Newtown	CT
TUV Telecom Services, Inc.	200039-0	St. Paul	MN
TUViT, IT Security Laboratory	200428-0	Austin	TX
Twin Ports Testing, Inc.	102083-0	Superior	WI
TXU Electric - Comanche Peak Steam Electric Station	100528-0	Glen Rose	TX

U

LABORATORY NAME	NVLAP LAB CODE	CITY	STATE/ COUNTRY
U.S. Army Center for Health Promotion and Preventive Medicine	200044-0	Aberdeen Proving Ground	MD
U.S. Army Radiation Standards & Dosimetry Laboratory	100539-0	Redstone Arsenal	AL
U.S. EPA - National Enforcement Investigations Center	101703-0	Denver	CO
UltraTech Engineering Labs Inc.	200093-0	Oakville, Ontario	CANADA
Underwriters Laboratories	200252-0	Santa Clara	CA
Underwriters Laboratories Inc.	100414-0	Northbrook	IL

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LABORATORY NAME	NVLAP LAB CODE	CITY	STATE/ COUNTRY
Underwriters Laboratories Inc.	200214-0	Camas	WA
Underwriters Laboratories Inc.	200535-0	Sunol	CA
Underwriters Laboratories, Inc.	100255-0	Melville	NY
Underwriters Laboratories, Inc.	200246-0	Research Triangle Park	NC
United Analytical Services, Inc.	101732-0	Downers Grove	IL
United States Dosimetry Technology, Inc.	100571-0	Richland	WA
United States Technologies, Inc.	200162-0	Alpharetta	GA
United Steel and Fasteners Inc.	200341-0	Itasca	IL
United Testing Sys. Canada, Ltd., Dynamic Testing Sys. Int. Inc.	200311-0	Concord Ontario	CANADA
Universal Compliance Laboratories	200117-0	San Jose	CA
University (State) Hygienic Laboratory	101288-0	Iowa City	IA
University of Alabama Asbestos Laboratory	102005-0	Tuscaloosa	AL
Unviersity of Wisconsin Radiation Calibration Laboratory	200470-0	Madison	WI
US Air Force Center for Radiation Dosimetry	100548-0	Brooks AFB	TX
USEM de Mexico, S.A. de C.V.	200506-0	Apodaca NL	MEXICO
USG Research - Construction Systems Laboratory	200132-0	Libertyville	IL

V

LABORATORY NAME	NVLAP LAB CODE	CITY	STATE/ COUNTRY
Verizon Logistics, Electronic Repair Services	200352-0	Fort Wayne	IN
Vermont Fasteners Manufacturing	200254-0	Swanton	VT
Vibro-Acoustics Laboratory	100424-0	Scarborough Ontario	CANADA
VLSI Standards, Inc.	200302-0	San Jose	CA
Volz Environmental Services, Inc.	101269-0	Pittsburgh	PA

W

LABORATORY NAME	NVLAP LAB CODE	CITY	STATE/ COUNTRY
W.R. Grace & Co.	200258-0	Cambridge	MA
Washington Laboratories, Ltd.	200066-0	Gaithersburg	MD
Washington State Department of Agriculture Metrology Laboratory	200446-0	Tumwater	WA
Wave Corporation	200549-0	Tano-gun, Gunma	JAPAN
Wayne Langston, Inc.	200021-0	League City	TX
Webber Gage Division / L.S. Starrett Co.	200038-0	Cleveland	OH
Western Analytical Laboratory, Inc.	200037-0	Arleta	CA
Western Electro-Acoustic Lab., Inc.	100256-0	Santa Clarita	CA
White Environmental Consultants Inc.	200124-0	Anchorage	AK
White Environmental Consultants, Inc.	200350-0	Honolulu	HI
White Environmental Consultants, Inc.	200509-0	Tigard	OR
Willamette Industries, Inc. West Coast Development Lab	200045-0	Wilsonville	OR
Windermere Info. Tech. Sys. Military/Commercial Compliance Lab.	200084-0	Annapolis	MD
Wisconsin Occupational Health Laboratory	101109-0	Madison	WI
WKP Laboratories, Inc.	101950-0	New York City	NY
Wolverine Plating Corp.	200230-0	Roseville	MI
Wonder Makers Environmental Inc.	102065-0	Kalamazoo	MI

Y

LABORATORY NAME	NVLAP LAB CODE	CITY	STATE/ COUNTRY
Yamaha EMC Center	200455-0	Tenryu-shi, Shizuoka-ken	JAPAN

Z

LABORATORY NAME	NVLAP LAB CODE	CITY	STATE/ COUNTRY
Zacta Technology Corporation Yonezawa Testing Center	200306-0	Yonezawa-shi Yamagata	JAPAN

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B

LISTING BY FIELD OF ACCREDITATION

LABORATORY NAME	NVLAP LAB CODE	CITY	STATE/ COUNTRY

CALIBRATION LABORATORIES GROUP

Dimensional

LABORATORY NAME	NVLAP LAB CODE	CITY	STATE/ COUNTRY
Bechtel BWXT Idaho, Standards and Calibration Lab	200115-0	Idaho Falls	ID
Dwight D.I.C., Inc.	200405-0	Lyndhurst	NJ
GE Industrial Systems	200029-0	Rome	NY
Honeywell FM&T Metrology	200108-0	Kansas City	MO
Indiana Division of Weights and Measures	200421-0	Indianapolis	IN
Instron Field Calibration Laboratory	200301-0	Canton	MA
Metroplex Metrology Lab, Inc.	200262-0	Fort Worth	TX
Michigan Dept. of Agriculture, E.C. Heffron Metrology Laboratory	200408-0	Williamston	MI
Minnesota Metrology Laboratory	105003-0	St. Paul	MN
Oak Ridge Metrology Center	105000-0	Oak Ridge	TN
Oklahoma Bureau of Standards	200396-0	Oklahoma City	OK
Philip Morris Standards and Calibration Laboratory	200359-0	Richmond	VA
Sandia National Laboratories	105002-0	Albuquerque	NM
Southern California Edison Company	105014-0	Westminster	CA
State of Virginia Metrology Lab	105007-0	Richmond	VA
Strategic Weapons Fac. Pacific Cal. Lab. Oper. by Lockheed Martin	200406-0	Silverdale	WA
SWFLANT Calibration Laboratory Operated by Lockheed Martin	200403-0	Kings Bay	GA
United Testing Sys. Canada, Ltd., Dynamic Testing Sys. Int. Inc.	200311-0	Concord Ontario	CANADA
VLSI Standards, Inc.	200302-0	San Jose	CA
Webber Gage Division / L.S. Starrett Co.	200038-0	Cleveland	OH

Electromagnetics - DC/Low Frequency

LABORATORY NAME	NVLAP LAB CODE	CITY	STATE/ COUNTRY
Bechtel BWXT Idaho, Standards and Calibration Lab	200115-0	Idaho Falls	ID
Compaq Corporate Metrology	200154-0	Houston	TX
Eaton Corporation Innovation Center	200182-0	Southfield	MI
Electronic Automation	200410-0	Grand Rapids	MI
Fluke Corporation Primary Standards Laboratory	105016-0	Everett	WA
GE Industrial Systems	200029-0	Rome	NY
Hart Scientific Calibration Laboratory	200348-0	American Fork	UT
Marlin Manufacturing Corporation	200512-0	Cleveland	OH
Pyromation Inc. Metrology Laboratory	200502-0	Fort Wayne	IN
Sandia National Laboratories	105002-0	Albuquerque	NM
SE Laboratories, Inc.	200338-0	Santa Clara	CA
Southern California Edison Company	105014-0	Westminster	CA
Strategic Weapons Fac. Pacific Cal. Lab. Oper. by Lockheed Martin	200406-0	Silverdale	WA
SWFLANT Calibration Laboratory Operated by Lockheed Martin	200403-0	Kings Bay	GA
Verizon Logistics, Electronic Repair Services	200352-0	Fort Wayne	IN

LABORATORY NAME	NVLAP LAB CODE	CITY	STATE/ COUNTRY
Electromagnetics - RF/Microwave			
Compaq Corporate Metrology	200154-0	Houston	TX
Honeywell FM&T Metrology	200108-0	Kansas City	MO
IPS Corporation	200012-0	Nagano	JAPAN
Liberty Labs, Inc.	200123-0	Kimballton	IA
Sandia National Laboratories	105002-0	Albuquerque	NM
SE Laboratories, Inc.	200338-0	Santa Clara	CA
Ionizing Radiation			
CDRH X-Ray Calibration Laboratory	105018-0	Rockville	MD
MDS Nordion Dosimetry Laboratory	200370-0	Kanata Ontario	CANADA
Ohio E.M.A. Radiological Instrument Calibration Facility	200419-0	Columbus	OH
Pacific Northwest National Laboratory / Battelle	105020-0	Richland	WA
RESL - DOE Laboratory Accreditation Program	200366-0	Idaho Falls	ID
Sandia National Laboratories	105002-0	Albuquerque	NM
STERIS-Isomedix Services	200235-0	Morton Grove	IL
Mechanical			
Arizona Department of Weights and Measures Metrology Laboratory	200381-0	Glendale	AZ
Bechtel BWXT Idaho, Standards and Calibration Lab	200115-0	Idaho Falls	ID
David L. Ellis Co., Incorporated	200127-0	Acton	MA
Deka Scale, Inc., Scales and Balances	200400-0	Toledo	OH
Denver Instrument Co. Weight Lab	200106-0	Arvada	CO
Eaton Corporation Innovation Center	200182-0	Southfield	MI
Henry Troemner, LLC	105013-0	Thorofare	NJ
Honeywell FM&T Metrology	200108-0	Kansas City	MO
Indiana Division of Weights and Measures	200421-0	Indianapolis	IN
Instron Field Calibration Laboratory	200301-0	Canton	MA
Instron Force Calibration Laboratory	105023-0	Canton	MA
Maine Metrology Department of Agriculture	200414-0	Augusta	ME
Metrology Concepts Inc., dba Tri-State Calibration	200505-0	Antioch	IL
Metroplex Metrology Lab, Inc.	200262-0	Fort Worth	TX
Michigan Dept. of Agriculture, E.C. Heffron Metrology Laboratory	200408-0	Williamston	MI
Minnesota Metrology Laboratory	105003-0	St. Paul	MN
Oak Ridge Metrology Center	105000-0	Oak Ridge	TN
Oklahoma Bureau of Standards	200396-0	Oklahoma City	OK
Philip Morris Standards and Calibration Laboratory	200359-0	Richmond	VA
Rice Lake Weighing Systems	105001-0	Rice Lake	WI
Ruska Calibration Laboratory	200491-0	Houston	TX
S. Himmelstein and Company	200487-0	Hoffman Estates	IL
Sandia National Laboratories	105002-0	Albuquerque	NM
Southern California Edison Company	105014-0	Westminster	CA
State of Virginia Metrology Lab	105007-0	Richmond	VA
Strategic Weapons Fac. Pacific Cal. Lab. Oper. by Lockheed Martin	200406-0	Silverdale	WA

LABORATORY NAME	NVLAP LAB CODE	CITY	STATE/ COUNTRY
SWFLANT Calibration Laboratory Operated by Lockheed Martin	200403-0	Kings Bay	GA
United Testing Sys. Canada, Ltd., Dynamic Testing Sys. Int. Inc.	200311-0	Concord Ontario	CANADA
Washington State Department of Agriculture Metrology Laboratory	200446-0	Tumwater	WA

Optical Radiation

LABORATORY NAME	NVLAP LAB CODE	CITY	STATE/ COUNTRY
Electronic Automation	200410-0	Grand Rapids	MI
Technical Calibration Labs, Inc.	200459-0	Monroe	NY

Thermodynamic

LABORATORY NAME	NVLAP LAB CODE	CITY	STATE/ COUNTRY
Bechtel BWXT Idaho, Standards and Calibration Lab	200115-0	Idaho Falls	ID
Electronic Automation	200410-0	Grand Rapids	MI
Fluke Corporation Primary Standards Laboratory	105016-0	Everett	WA
GE Industrial Systems	200029-0	Rome	NY
GeoCorp Industrial Controls, Inc.	200496-0	Huron	OH
Hart Scientific Calibration Laboratory	200348-0	American Fork	UT
Marlin Manufacturing Corporation	200512-0	Cleveland	OH
Metroplex Metrology Lab, Inc.	200262-0	Fort Worth	TX
Minnesota Metrology Laboratory	105003-0	St. Paul	MN
Oak Ridge Metrology Center	105000-0	Oak Ridge	TN
Philip Morris Standards and Calibration Laboratory	200359-0	Richmond	VA
Pyromation Inc. Metrology Laboratory	200502-0	Fort Wayne	IN
Ruska Calibration Laboratory	200491-0	Houston	TX
Sandia National Laboratories	105002-0	Albuquerque	NM
State of Virginia Metrology Lab	105007-0	Richmond	VA

Time & Frequency

LABORATORY NAME	NVLAP LAB CODE	CITY	STATE/ COUNTRY
Bechtel BWXT Idaho, Standards and Calibration Lab	200115-0	Idaho Falls	ID
Compaq Corporate Metrology	200154-0	Houston	TX
Electronic Automation	200410-0	Grand Rapids	MI
Fluke Corporation Primary Standards Laboratory	105016-0	Everett	WA
Honeywell FM&T Metrology	200108-0	Kansas City	MO
Indiana Division of Weights and Measures	200421-0	Indianapolis	IN
Maine Metrology Department of Agriculture	200414-0	Augusta	ME
Oak Ridge Metrology Center	105000-0	Oak Ridge	TN
Sandia National Laboratories	105002-0	Albuquerque	NM
SE Laboratories, Inc.	200338-0	Santa Clara	CA
State of Virginia Metrology Lab	105007-0	Richmond	VA
Strategic Weapons Fac. Pacific Cal. Lab. Oper. by Lockheed Martin	200406-0	Silverdale	WA
SWFLANT Calibration Laboratory Operated by Lockheed Martin	200403-0	Kings Bay	GA

LABORATORY NAME	NVLAP LAB CODE	CITY	STATE/ COUNTRY
CHEMICAL CALIBRATION GROUP			
NIST Traceable Reference Materials			
Thermo Spectronic	200462-0	Cambridge	UNITED KINGDOM
Providers of Proficiency Testing			
Absolute Standards, Inc.	200390-0	Hamden	CT
AccuStandard, Inc.	200389-0	New Haven	CT
Analytical Products Group, Inc.	200384-0	Belpre	OH
Chrisope Technologies, A Division of Remel	200388-0	Lake Charles	LA
Environmental Resource Associates (ERA)	200386-0	Arvada	CO
Microcheck, Inc.	200391-0	Northfield	VT
NSI Solutions, Inc.	200440-0	Raleigh	NC
NYS DOH Environmental Laboratory Approval Program	200387-0	Albany	NY
Protocol Analytical Supplies, Inc.	200395-0	Middlesex	NJ
Resource Technology Corporation (RTC)	200393-0	Laramie	WY
Spex Certiprep Inc.	200392-0	Metuchen	NJ
DOSIMETRY GROUP			
Ionizing Radiation Dosimetry			
AmerenUE, Callaway Plant	100502-0	Fulton	MO
Arizona Public Service Co., Palo Verde Nuclear Generating Station	100536-0	Tonopah	AZ
Atomic Energy Industrial Laboratory of the Southwest, Inc.	100556-0	Houston	TX
Battelle - Pacific Northwest National Laboratory	200216-0	Richland	WA
Calvert Cliffs Nuclear Power Plant, Inc.	100501-0	Lusby	MD
Carolina Power & Light Company, Harris Energy & Enviro. Center	100517-0	New Hill	NC
Detroit Edison, Fermi 2 Dosimetry Laboratory	100529-0	Newport	MI
Dominion Nuclear Connecticut, Inc.	100540-0	Waterford	CT
Duke Engineering and Services Environmental Laboratory	100524-0	Westborough	MA
Duke Power Company Dosimetry Laboratory	100505-0	Charlotte	NC
Entergy Nuclear Northeast	100538-0	Buchanan	NY
Entergy Operations, Inc.	100535-0	Killona	LA
Florida Power & Light Company	100544-0	Juno Beach	FL
General Dynamics, Electric Boat	100560-0	Groton	CT
Georgia Power Company/Enviro. Affairs, Enviro. Lab-Dosimetry	100551-0	Smyrna	GA
Ginna Nuclear Station	100514-0	Ontario	NY
ICN Worldwide Dosimetry Service, Div. of ICN Biomedicals, Inc.	100555-0	Costa Mesa	CA
Landauer, Inc.	100518-0	Glenwood	IL
Mallinckrodt, Inc.	100503-0	Maryland Heights	MO
Naval Dosimetry Center	100504-0	Bethesda	MD
Naval Nuclear Propulsion Program Directorate, Washington, DC	100565-0	Bremerton	WA
Newport News Shipbuilding Radiological	100561-0	Newport News	VA

LABORATORY NAME	NVLAP LAB CODE	CITY	STATE/ COUNTRY
Control Department			
Pacific Gas & Electric Company, Diablo Canyon Nuclear Power Plant	100537-0	Avila Beach	CA
PPL Susquehanna, LLC	100554-0	Allentown	PA
Proxtronics, Inc.	100573-0	Springfield	VA
Radiation Detection Company	100512-0	Gilroy	CA
Radiation Laboratory, Taiwan Power Company	100562-0	Shihmen, Taipei	TAIWAN
South Texas Project Dosimetry Laboratory	100519-0	Wadsworth	TX
Tennessee Valley Authority External Dosimetry Service	100516-0	Soddy-Daisy	TN
Troxler Radiation Monitoring Svc. a div. of Troxler Elect. Labs	100559-0	Research Triangle Park	NC
TXU Electric - Comanche Peak Steam Electric Station	100528-0	Glen Rose	TX
U.S. Army Radiation Standards & Dosimetry Laboratory	100539-0	Redstone Arsenal	AL
United States Dosimetry Technology, Inc.	100571-0	Richland	WA
Unviersity of Wisconsin Radiation Calibration Laboratory	200470-0	Madison	WI
US Air Force Center for Radiation Dosimetry	100548-0	Brooks AFB	TX

ELECTROMAGNETIC COMPATIBILITY & TELECOMMUNICATIONS

Electromagnetic Compatibility & Telecommunications

LABORATORY NAME	NVLAP LAB CODE	CITY	STATE/ COUNTRY
3M Product Safety EMC Laboratory	200033-0	St. Paul	MN
A-Pex International Co., Ltd. Yamakita Laboratory	200441-0	Ashigarakami-gun	JAPAN
A-Pex International Co., Ltd. Yokowa Laboratory	200109-0	Mie-ken	JAPAN
Advance Data Technology Corporation	200102-0	Taipei Hsien	TAIWAN
Advance Data Technology Corporation Hsin Chu EMC Laboratory	200376-0	Hsin Chu Hsien	TAIWAN
Advanced Compliance Laboratory	200101-0	Hillsborough	NJ
Advantest Analysis Laboratory Ltd. EMC Center	200477-0	Gunma	JAPAN
AHD	200129-0	Dowagiac	MI
Akzo Nobel K.K. Kawasaki Technical Center	200300-0	Kawasaki	JAPAN
Akzo Nobel K.K., Kakegawa EMC Test Site	100290-2	Shizuoka	JAPAN
Akzo Nobel K.K., Kashima EMC Site	100290-0	Ibaraki	JAPAN
Akzo Nobel K.K., Matsuda EMC Test Site	100290-4	Kanagawa	JAPAN
Akzo Nobel K.K., Nagano EMC Test Site	100290-3	Nagano	JAPAN
Akzo Nobel K.K., Tochigi EMC Test Site	100290-5	Tochigi	JAPAN
Anritsu Customer Services Ltd. EMC Center	200550-0	Kanagawa-Prf.	JAPAN
Apple Computer, Inc., EMC Compliance Laboratory	200071-0	Cupertino	CA
Audix Technology (Shanghai) Co., Ltd.	200371-0	Shanghai	CHINA
AUDIX Technology (Shenzhen) Co., Ltd.	200372-0	Shenzhen, Guangdong	CHINA
BAE Systems	200425-0	Nashua	NH
BAE Systems Controls, Inc. EMI Laboratory	200142-0	Johnson City	NY
Bay Area Compliance Laboratory Corp.	200167-0	Sunnyvale	CA
Benesol Corp.	200438-0	Sagamihara-shi, Kanagawa	JAPAN
Best Laboratory	200484-0	Taipei Hsein	TAIWAN

LABORATORY NAME	NVLAP LAB CODE	CITY	STATE/ COUNTRY
Boeing - St. Louis Electromagnetic Compatibility Laboratory	200382-0	St. Louis	MO
Canon D5 RF Anechoic Chamber; FCC Part 15; CISPR 22/AS/NZS 3548	200478-0	Ibaraki	JAPAN
Chemitox EMC Research, Inc.	200120-0	Yamanashi-ken	JAPAN
Chomerics Test Services (CTS)	100296-0	Woburn	MA
Cisco Systems, Inc.	200114-0	San Jose	CA
Communication Certification Laboratory	100272-0	Salt Lake City	UT
Compaq Computer Corp. EMC Test Facility	200078-0	Colorado Springs	CO
Compaq Computer Corp. Emissions Control Lab	200058-0	Houston	TX
Compaq Regulatory Compliance Engineering - East	100413-0	Marlboro	MA
Compatible Electronics, Inc.	200063-0	Agoura	CA
Compatible Electronics, Inc.	200527-0	Silverado/Lake Forest	CA
Compatible Electronics, Inc.	200528-0	Brea	CA
Compliance Eng. Svces, Inc., Compliance Certification Services	200065-0	Morgan Hill	CA
Cosmos Corporation	200151-0	Watarai-gun Mie	JAPAN
Criterion Technology Corp.	100396-0	Rollinsville	CO
CSA International	100322-0	Toronto Ontario	CANADA
D.L.S. Electronic Systems, Inc.	100276-0	Wheeling	IL
Dayton T. Brown, Inc.	200422-0	Bohemia	NY
Dell Regulatory Test Laboratories	200052-0	Round Rock	TX
Digital EMC., Ltd.	200559-0	Kyunggi-Do	KOREA
Diviersified T.E.S.T. Technologies, Inc.	200340-0	Groton	NY
Eastman Kodak Co.- EMC Facility	200313-0	Rochester	NY
Eaton E3 Laboratory	100382-0	Southfield	MI
Electro Magnetic Test, Inc.	200147-0	Mountain View	CA
Electronic Research & Service Organization/ITRI	200118-0	Chutung Hsinchu	TAIWAN
Electronics Test Centre	200282-0	Kanata, Ont.	CANADA
Electronics Testing Center, Taiwan	200133-0	Taoyuan Hsien	TAIWAN
Elite Electronic Engineering Inc.	100278-0	Downers Grove	IL
Elliott Laboratories, Inc.	200069-0	Sunnyvale	CA
EMC Compliance Mgmt Group, dba Turntech Scientific & Instr., Inc.	200068-0	Mountain View	CA
EMC Corporation	100339-0	Westboro	MA
EMCE Engineering, Inc.	200092-0	Fremont	CA
Enterasys Networks Inc.	200121-0	Nashua	NH
Environmental and EMC Test Centre	200304-0	Kent	UNITED KINGDOM
Flextronics Compliance Laboratories	200094-0	Youngsville	NC
Fujitsu Evaluation Engineering Laboratory	200281-0	Numazu, Shizuoka-Pref.	JAPAN
Fujitsu General EMC Laboratory	200373-0	Kawasaki	JAPAN
Garwood Laboratories, Inc.	200119-0	Placentia	CA
General Dynamics Decision Systems	100405-0	Scottsdale	AZ
Global EMC Standard Tech. Corp.	200085-0	Taipei County	TAIWAN
Global Testing	200436-0	Santa Ana	CA
Harris Corporation GCSD EMI Test Laboratory	200500-0	Melbourne	FL
Hewlett Packard, Product Test Lab, San Diego	200138-0	San Diego	CA

(See 'How To Use This Directory' on page 7.)

LABORATORY NAME	NVLAP LAB CODE	CITY	STATE/ COUNTRY
Hitachi Information Technology Co., Ltd.	200186-0	Kanagawa	JAPAN
HomeTek Technology Inc.	200331-0	Taipei Shien	TAIWAN
IBM Austin EMC	200112-0	Austin	TX
IBM Endicott EMC Lab	200418-0	Endicott	NY
IBM Poughkeepsie EMC Laboratory	200435-0	Poughkeepsie	NY
IBM Rochester EMC Lab	200091-0	Rochester	MN
IBM RTP PSG EMC Test Labs	200200-0	Research Triangle Park	NC
IBM Yamato EMC Engineering	200198-0	Yamato Kanagawa	JAPAN
IIT Research Institute/R&B Operation	100280-0	West Conshohocken	PA
InFocus Systems, Inc.	200152-0	Wilsonville	OR
Intermec Technologies Corporation	100269-0	Cedar Rapids	IA
International Standards Laboratory	200234-0	Tao Yaun County	TAIWAN
International Technology Company (ITC)	200172-0	Sunol	CA
Interocean EMC Technology Corp.	200458-0	Taipei County	TAIWAN
Intertek Testing Services	200201-0	Menlo Park	CA
Intertek Testing Services NA Inc.	100274-0	Lexington	KY
Intertek Testing Services NA Inc.	200297-0	Laguna Niguei	CA
Intertek Testing Services NA, Inc.	200049-0	Oakdale	MN
Inventec Corp. (Taoyuan) EMC Labs	200140-0	Taoyuan	TAIWAN
IPS Corporation	200012-0	Nagano	JAPAN
Japan Quality Assurance Org. Chubu Testing Center Shikatsu Branch	200190-0	Aichi	JAPAN
Japan Quality Assurance Org. Safety & EMC Ctr. Tsuru EMC Branch	200192-0	Yamanashi	JAPAN
Japan Quality Assurance Organization Kita-Kansai Testing Center	200191-0	Osaka	JAPAN
Japan Quality Assurance Organization Safety & EMC Center	200189-0	Tokyo	JAPAN
JMR Compliance Engineering	200413-0	Chatsworth	CA
Kansai Electronic Industry Development Center, Ikoma Testing Lab.	200207-0	Ikoma Nara	JAPAN
Key Tronic Corp.	200096-0	Spokane	WA
Kyushu Matsushita Electric Test Lab EMC Center	200364-0	Tosu-shi Saga-ken	JAPAN
Laird Group PLC	200076-0	Delaware Water Gap	PA
LG Electronics, Inc., Quality and Reliability Center	200040-0	Seoul	KOREA
Lucent Technologies, Global Product Compliance Lab	100275-0	Holmdel	NJ
Matsushita EMC Center	100428-0	Sasayama, Hyogo	JAPAN
MET Laboratories Incorporated	200445-0	Union City	CA
MET Laboratories, Inc.	100273-0	Baltimore	MD
Minolta Co., Ltd. Toyokawa EMC Lab	200434-0	Toyokawa, Aichi	JAPAN
Mitsubishi Digital Electronics America, Inc. EMC Test Lab	200498-0	Irvine	CA
Motorola Test Lab Services	200005-0	Mansfield	MA
Murata Mfg. Co., Ltd. Yokohama Technical Center EMM Office	200263-0	Kanagawa	JAPAN
National Technical Systems	100347-0	Boxborough	MA
National Technical Systems	200245-0	Plano	TX
NAWC-Aircraft Div. Lakehurst Electromagnetic Interference Lab.	200222-0	Lakehurst	NJ

LABORATORY NAME	NVLAP LAB CODE	CITY	STATE/ COUNTRY
NAWCAD 5.1.7.4. EMI Lab	100408-0	Patuxent River	MD
NCR Corp. San Diego EMC Lab	200383-0	San Diego	CA
NEC Access Technica, Ltd. EMC Center	200488-0	Shizuoka-ken	JAPAN
NEC Kofu, Ltd., EMC Center	200433-0	Yamanashi	JAPAN
Nemko Dallas, Inc.	100426-0	Lewisville	TX
Nemko EESI, Inc.	200116-0	San Diego	CA
Neutron Engineering Inc.	200145-0	Taipei	TAIWAN
Niigata Fuji Xerox Manufacturing Co., Ltd. EMC Group	200490-0	Niigata	JAPAN
Nortel Networks BVW Lab	200098-0	Belleville, Ontario	CANADA
Northwest EMC, Inc.	200059-0	Hillsboro	OR
Ohtama Co., Ltd. Yamanashi EMC Test Site	200175-0	Yamanashi	JAPAN
Oki Engineering Co., Ltd. EMC Honjo Center	200519-0	Honjo-shi, Saitama	JAPAN
Olympus EMC Laboratory	200472-0	Tokyo	JAPAN
ORIX Rentec EMC Center; Electromagnetic Compatibility	200404-0	Aiko-Gun, Kanagawa	JAPAN
Paradyne Corporation	200125-0	Largo	FL
PCTEST Engineering Laboratory, Inc.	100431-0	Columbia	MD
PDE Laboratories	200082-0	San Clemente	CA
PEP Testing Laboratory	200097-0	Taipei Hsien	TAIWAN
PFU TECHNOCONSUL EMC Center	200259-0	Ishikawa-Ken	JAPAN
Philips Electronics Industries (TAIWAN) Ltd.	200137-0	Chungli, Taoyuan	TAIWAN
Philips Testing Service	200409-0	Knoxville	TN
Professional Testing (EMI), Inc.	200062-0	Round Rock	TX
Quest Engineering Solutions, Inc.	200036-0	N. Billerica	MA
Quietek Corporation	200347-0	Hsin-Chu Country	TAIWAN
Quitek Corporation	200533-0	Lin Kou Shiang, Taipei	TAIWAN
Raytheon Electronic Systems,California Engineering EEE Laboratory	200431-0	El Segundo	CA
Raytheon Technical Services Co. EMI Laboratory	200317-0	Indianapolis	IN
Retlif Testing Laboratories	100267-0	Ronkonkoma	NY
Retlif Testing Laboratories	100267-1	Goffstown	NH
Rhein Tech Laboratories, Inc.	200061-0	Herndon	VA
Ricoh Company, Ltd. Ohmori EMC Center	200163-0	Tokyo	JAPAN
RMS EMI Laboratory MIL-STD 462C/D	200489-0	Tucson	AZ
Rogers Labs, Inc.	200087-0	Louisburg	KS
Samsung Electronics EMC Laboratory	200447-0	Suwon, Kyungki Do	KOREA
Sanmina Homologation Services	100411-0	San Jose	CA
Seiko Epson Corporation	200157-0	Shiojiri-City Nagano	JAPAN
Sharp Nara EMC Center, EMI Measurement for ITE	200457-0	Yamatokooriyama-shi Nara	JAPAN
SK Tech Co., LTD.	200220-0	Namyangju-si, Kyunggi-Do	KOREA
Sony Electronics Inc. Product Quality Division EMC Group	200312-0	San Diego	CA
Sony EMCS Corp. Kohda TEC	200398-0	Nukata-gun Aichi	JAPAN
Sony EMCS Corporation Minokamo TEC	200368-0	Gifu-Pref.	JAPAN
Sony EMCS Saotama TEC EMC Test Laboratory	200456-0	Saitama-ken	JAPAN
Sony Kisarazu EMC Test Laboratory	200432-0	Kisarazu Chiba	JAPAN

(See 'How To Use This Directory' on page 7.)

LABORATORY NAME	NVLAP LAB CODE	CITY	STATE/ COUNTRY
Sony Nagano EMC Test Laboratory	200553-0	Nagano-ken	JAPAN
Spectrum Research & Testing Laboratory, Inc.	200099-0	Chung-Li, Taoyuan	TAIWAN
Sporton International, Inc.	200079-0	Taipei Hsien	TAIWAN
Storagtek Open Area Test Site	200251-0	Louisville	CO
Sun Microsystems, Inc. EMC Testing	200363-0	Palo Alto	CA
Syonan Site Testing Laboratory as Conducted & Radiated Emissions	200482-0	Kanagawa	JAPAN
Taiwan Tokin EMC Eng. Corp.	200077-0	Taipei	TAIWAN
TDK Corporation's 10m Anechoic Chamber & 3m Anechoic Chamber	200309-0	Ichikawa-shi, Chiba-ken	JAPAN
TDK Corporation's Chikumagawa Open Site	200319-0	Saku-shi, Nagano-ken	JAPAN
TDK RF Solutions Inc.	200430-0	Cedar Park	TX
TEAC Corporation EMC Center	200362-0	Saitama-ken	JAPAN
Test Site Services, Inc.	100419-0	Marlboro	MA
Tokin EMC Engineering Co., Ltd. Kawasaki Facility	200217-0	Kawasaki-city, Kanagawa	JAPAN
Tokin EMC Engineering Co., Ltd. Nagoya Testing Laboratory	200219-0	Daian-cho, Inabe-gun, Mie	JAPAN
Tokin EMC Engineering Co., Ltd. Osaka Testing Laboratory	200218-0	Sanda-city, Hyogo	JAPAN
Tokin EMC Engineering Co., Ltd. Tsukuba Testing Laboratory	200221-0	Tsukuba-city, Ibaraki	JAPAN
Toshiba Corp., Ome Operations	200107-0	Ome Tokyo	JAPAN
Training Research Co., Ltd.	200174-0	Taipei Hsien	TAIWAN
TUV Product Service, Inc.	100268-0	San Diego	CA
TUV Product Service, Inc.	100271-1	Boulder	CO
TUV Product Service, Inc.- A Division of TUV America Inc.	100271-0	New Brighton	MN
TUV Rheinland of North America, Inc.	200111-0	Newtown	CT
TUV Telecom Services, Inc.	200039-0	St. Paul	MN
UltraTech Engineering Labs Inc.	200093-0	Oakville, Ontario	CANADA
Underwriters Laboratories	200252-0	Santa Clara	CA
Underwriters Laboratories Inc.	100414-0	Northbrook	IL
Underwriters Laboratories Inc.	200214-0	Camas	WA
Underwriters Laboratories Inc.	200535-0	Sunol	CA
Underwriters Laboratories, Inc.	100255-0	Melville	NY
Underwriters Laboratories, Inc.	200246-0	Research Triangle Park	NC
United States Technologies, Inc.	200162-0	Alpharetta	GA
Universal Compliance Laboratories	200117-0	San Jose	CA
Washington Laboratories, Ltd.	200066-0	Gaithersburg	MD
Wave Corporation	200549-0	Tano-gun, Gunma	JAPAN
Wayne Langston, Inc.	200021-0	League City	TX
Windermere Info. Tech. Sys. Military/Commercial Compliance Lab.	200084-0	Annapolis	MD
Yamaha EMC Center	200455-0	Tenryu-shi, Shizuoka-ken	JAPAN
Zacta Technology Corporation Yonezawa Testing Center	200306-0	Yonezawa-shi Yamagata	JAPAN

ENVIRONMENTAL GROUP

Asbestos Fiber Analysis (PLM Test Method)

LABORATORY NAME	NVLAP LAB CODE	CITY	STATE/ COUNTRY
A & B Environmental Services, Inc.	101793-0	Houston	TX
A.E.S.L. Environmental Laboratory	200303-0	Tempe	AZ
Accredited Environmental Technologies, Inc.	101051-0	Media	PA
ACM Environmental, Inc.	101977-0	South Bend	IN
Adirondack Environmental Services Inc.	200552-0	Albany	NY
Advanced Industrial Hygiene Services, Inc.	101006-0	Miami	FL
AES International	200051-0	Santurce	PR
AGX, Inc.	101578-0	Wexford	PA
Air Quality Laboratories	101580-0	Oklahoma City	OK
Aires Consulting Group, Inc.	101014-0	Batavia	IL
Airtek Environmental Corp.	102011-0	New York	NY
ALAC	200323-0	New York	NY
Alpine Consulting, Inc.	102089-0	Colorado Springs	CO
AMA Analytical Services, Inc.	101143-0	Lanham	MD
Ambient Group, Inc.	101618-0	Glen Cove	NY
AMEC Earth & Environmental, Inc., PLM LAB	200444-0	Phoenix	AZ
American Asbestos Laboratories, Inc.	101775-0	Miami Lakes	FL
American Electric Power (AEP), Dolan Chemical Laboratory	102102-0	Groveport	OH
American Medical Laboratories, Inc.	101136-0	Chantilly	VA
Analytica Solutions, Inc.	101086-0	Thornton	CO
Analytical Environmental Services	101735-0	Austin	TX
Analytical Environmental Services, Inc.	102082-0	Atlanta	GA
Analytical Labs San Francisco, Inc.	101909-0	San Francisco	CA
AnalyticaLab	101727-0	Willow Springs	IL
Analytics Corporation	101004-0	Richmond	VA
Apex Research, Inc.	102118-0	Whitmore Lake	MI
Apollo Environmental, Inc.	101871-0	Gibsonton	FL
Applied Environmental, Inc.	101611-0	Reston	VA
Applied Laboratory Services, LLC	200515-0	Norfolk	VA
ASBESTECH	101442-0	Carmichael	CA
Asbestos Analysis and Information Service, Inc.	101261-0	Four Oaks	NC
Asbestos Consulting & Testing (ACT)	101649-0	Lenexa	KS
Asbestos TEM Laboratories, Inc.	101891-0	Berkeley	CA
Asbestos TEM Laboratories, Inc.	200104-0	Sparks	NV
Assaigai Analytical Laboratories, Inc.	101457-0	Albuquerque	NM
AST International Environmental Consultants Inc.	200474-0	Spring Valley	CA
ATC Associates Inc.	101187-0	New York	NY
ATC Associates, Inc.	102031-0	Englewood	CO
Athenica Environmental Services, Inc.	101958-0	Long Island City	NY
Batta Laboratories, Inc.	101032-0	Newark	DE
Bay Area Air Quality Management District	102090-0	San Francisco	CA
Bella Donna Labs Inc.	101868-0	Wauwatosa	WI
Braun Intertec Corporation	101234-0	Minneapolis	MN
CA Laboratories, L.L.C.	200452-0	Baton Rouge	LA
CAM Environmental Services	200240-0	Pasadena	TX

LABORATORY NAME	NVLAP LAB CODE	CITY	STATE/ COUNTRY
Cape Environmental Management, Inc.	102111-0	Atlanta	GA
Carolina Environmental, Inc.	101768-0	Cary	NC
Chatfield Technical Consulting Limited	101103-0	Mississauga Ontario	CANADA
ChemScope, Inc.	101061-0	North Haven	CT
City of Los Angeles Department of Water and Power	101111-0	Los Angeles	CA
Clark Seif Clark, Inc.	200324-0	Chatsworth	CA
Clayton Group Services	101106-0	Seattle	WA
Clayton Group Services	101125-0	Kennesaw	GA
Comprehensive Health Services-Environmental Health PLM Laboratory	101759-0	Kennedy Space Center	FL
Concord Analysis, Inc.	101884-0	Chatsworth	CA
Connecticut Department of Public Health Laboratory	101237-0	Hartford	CT
Continental Envirotech, Inc.	200080-0	Mesa	AZ
Converse Consultants	102091-0	Reno	NV
Covino Environmental Associates, Inc.	101781-0	Woburn	MA
Crisp Analytical Laboratory	200349-0	Carrollton	TX
Criterion Laboratories, Inc.	102046-0	Bensalem	PA
CTL Environmental Services	101216-0	Harbor City	CA
DataChem Laboratories	101917-0	Cincinnati	OH
Davis & Floyd, Inc.	101410-0	Greenwood	SC
Davis Environmental Labs, Inc.	101039-0	Chicago	IL
DCM Science Laboratory, Inc.	101258-0	Wheat Ridge	CO
Design for Health Environmental Services	101864-0	San Diego	CA
DH Analytical Services	102086-0	Stafford	TX
DHMH-Air Quality Laboratory	101523-0	Baltimore	MD
Dixon Information Inc.	101012-0	South Salt Lake	UT
Dove Environmental Corporation	102053-0	Miami	FL
EA Group	101019-0	Mentor	OH
EAI, Inc.	102114-0	Jersey City	NJ
Eastern Analytical Services, Inc.	101646-0	Elmsford	NY
EcoSystems Environmental, Inc.	101162-0	Carrollton	TX
EMS Laboratories, Inc.	101218-0	Pasadena	CA
EMSL Analytical Inc. Bulk And Airborne Asbestos Fiber Analysis	200399-0	Chicago	IL
EMSL Analytical Inc. Mobile Laboratory	200481-0	Westmont	NJ
EMSL Analytical, Inc.	101048-0	Westmont	NJ
EMSL Analytical, Inc.	101048-1	Atlanta	GA
EMSL Analytical, Inc.	101048-2	Piscataway	NJ
EMSL Analytical, Inc.	101048-3	Milpitas	CA
EMSL Analytical, Inc.	101048-4	Ann Arbor	MI
EMSL Analytical, Inc.	101048-9	New York	NY
EMSL Analytical, Inc.	101048-10	Carle Place	NY
EMSL Analytical, Inc.	101151-0	Orlando	FL
EMSL Analytical, Inc.	102104-0	Greensboro	NC
EMSL Analytical, Inc.	102106-0	Houston	TX
EMSL Analytical, Inc.	200019-0	Minneapolis	MN
EMSL Analytical, Inc.	200034-0	Dallas	TX
EMSL Analytical, Inc.	200056-0	Depew	NY
EMSL Analytical, Inc.	200188-0	Indianapolis	IN

LABORATORY NAME	NVLAP LAB CODE	CITY	STATE/ COUNTRY
EMSL Analytical, Inc.	200204-0	N. Miami Beach	FL
EMSL Analytical, Inc.	200293-0	Beltsville	MD
EMSL Analytical, Inc.	200333-0	Elmsford	NY
EMSL Analytical, Inc.	200375-0	Baton Rouge	LA
ENCORP	200013-0	El Segundo	CA
Enviro-Probe, Inc.	101222-0	Bronx	NY
Envirocheck, Inc.	200548-0	Garden Grove	CA
EnviroHealth Technologies, Inc.	200374-0	St. Louis	MO
EnviroMed Services, Inc.	101514-0	New Haven	CT
Environmental Enterprise Group(EEG), Inc.	101587-0	Russellville	AR
Environmental Hazards Services, L.L.C.	101882-0	Richmond	VA
Environmental Health Laboratories	101506-0	Clayton	MO
Environmental Management Consultants, Inc.	101926-0	Scottsdale	AZ
Environmental Science Services, Inc.	200424-0	Lockeford	CA
Environmental Testing and Monitoring Services, Inc.	200131-0	Virginia Beach	VA
Environmental Testing, Inc.	101848-0	Middletown	DE
EnvironMETeo Services Inc.	101807-0	Waipahu	HI
Envirotest, Inc.	101595-0	Houston	TX
ERI Consulting Engineers, Inc.	101232-0	Tyler	TX
ESG Laboratories	102029-0	Indianapolis	IN
Family Analytical Laboratory Services, Inc.	200448-0	Denver	CO
Fiberquant, Inc.	101031-0	Phoenix	AZ
Fibertec, Inc.	101510-0	Holt	MI
Fluor Fernald, Inc., Analytical Laboratory Services	102010-0	Cincinnati	OH
Forensic Analytical	101459-0	Hayward	CA
Forensic Analytical Specialties, Inc.	101459-1	Rancho Dominguez	CA
Fort Polk Environmental Laboratory	200523-0	Fort Polk	LA
FRS Geotech, Inc.	102078-0	Denver	CO
Galson Laboratories	101375-0	East Syracuse	NY
Gelles Laboratories, Division, CC Technologies	101170-0	Dublin	OH
GLE Associates, Inc.	102003-0	Tampa	FL
Globeteck Group, Inc.	200541-0	Honolulu	HI
Health Science Associates	101384-0	Los Alamitos	CA
Hi-Tech Environmental and Laboratory Services	102013-0	Cypress	CA
HIH Laboratory, Inc.	101233-0	Webster	TX
Hillmann Environmental Group, L.L.C.	101421-0	Union	NJ
Holmes Environmental, Inc.	200467-0	Norfolk	VA
Houston Analytical Laboratory	200473-0	Houston	TX
Hygeia Laboratories Inc.	102116-0	Sierra Madre	CA
Hygeia Laboratories, Inc.	102087-0	Marietta	GA
Hygeia Laboratories, Inc.	200335-0	Miami	FL
HYGENIX, INC.	101199-0	Stamford	CT
Hygieneering, Inc.	101997-0	Willowbrook	IL
Hygienetics Laboratory Services	101147-0	Boston	MA
Industrial Laboratory	102115-0	Portsmouth	VA
Institute for Environmental Assessment	101249-0	Brooklyn Park	MN
International Asbestos Testing Laboratory	101165-0	Mt. Laurel	NJ
Iowa Environmental Services, Inc.	101990-0	Des Moines	IA

LABORATORY NAME	NVLAP LAB CODE	CITY	STATE/ COUNTRY
J3 Resources, Inc.	200525-0	Houston	TX
JLC Environmental Consultants, Inc.	101953-0	New York	NY
JMR Environmental Services Inc.	200067-0	San Diego	CA
JMS Environmental Associates, Ltd.	102012-0	Westmont	IL
KAM Consultants	102047-0	Long Island City	NY
Kellco Services, Inc.	101331-0	Hayward	CA
Kevco Services, Inc.	101941-0	Butler	PA
Kingston Environmental Laboratory	200041-0	Lee's Summit	MO
KSL	200442-0	Jackson	CA
LA Testing	200232-0	S. Pasadena	CA
Larron Laboratory	101415-0	Cape Girardeau	MO
Law Engineering and Environmental Services, Inc.	101066-0	Birmingham	AL
Law Engineering and Environmental Services, Inc.	101515-0	Tampa	FL
Law Engineering and Environmental Services, Inc.	101515-1	Miami Lakes	FL
Law Engineering and Environmental Services, Inc.	102035-0	Phoenix	AZ
Legend Technical Services, Inc.	102081-0	St. Paul	MN
LEX Scientific Inc.	101949-0	Guelph Ontario	CANADA
Loflin Environmental Services,Inc.	102044-0	Houston	TX
Los Angeles Unified School District	101505-0	Los Angeles	CA
Louisiana Department of Environmental Quality Microanalytical Lab	102000-0	Baton Rouge	LA
m.a.c. Paran Consulting Services, Inc.	102108-0	Amelia	OH
MACS Lab, Inc.	101948-0	Santa Clara	CA
Materials Analytical Services, Inc.	101235-0	Suwanee	GA
McCall and Spero Environmental, Inc.	101895-0	Louisville	KY
McKee Environmental Health, Inc.	101135-0	Friendswood	TX
Micro Air of Texas, Inc.	102008-0	Houston	TX
Micro Air, Inc.	101221-0	Indianapolis	IN
Micro Analytical Laboratories, Inc.	101872-0	Emeryville	CA
Micro Analytical, Inc.	101247-0	Milwaukee	WI
Micron Environmental Labs	200294-0	Arcadia	CA
Microscopic Analysis, Inc.	101037-0	St. Louis	MO
Midwest Laboratories, Inc.	101894-0	Countryside	IL
Missouri Department of Transportation, Chemical Laboratory	200544-0	Jefferson City	MO
Mountain Laboratories	101890-0	Spokane	WA
Mystic Air Quality Consultants, Inc.	101282-0	Groton	CT
NASA John H. Glenn Research Center at Lewis Field	200130-0	Cleveland	OH
National Econ Corporation	102062-0	Tustin	CA
National Econ Corporation	200047-0	Memphis	TN
National Environmental Reference Laboratory	101593-0	Denver	CO
Northern Analytical Laboratories, Inc.	101292-0	Billings	MT
Northern Industrial Hygiene, Inc.	200511-0	Burien	WA
Northern Testing Laboratories, Inc.	101463-0	Fairbanks	AK
Nova Consulting Group, Inc.	101545-0	Chaska	MN
Nowicki & Associates, Inc.	200322-0	Federal Way	WA

LABORATORY NAME	NVLAP LAB CODE	CITY	STATE/ COUNTRY
NVL Laboratories, Inc.	102063-0	Seattle	WA
NY Environmental & Analytical Labs, Inc.	101967-0	Port Washington	NY
O'Brien & Gere Laboratories, Inc.	101343-0	Syracuse	NY
Occupational Health Conservation, Inc.	102050-0	Jacksonville	FL
Omega Environmental Services	101289-0	Hackensack	NJ
Omni Environmental, Inc.	102061-0	Austin	TX
PA DEP Bureau of Laboratories	101323-0	Harrisburg	PA
Pacific Rim Environmental, Inc.	101631-0	Tukwila	WA
Palmetto Laboratory, Inc.	102077-0	St. Petersburg	FL
Paradigm Environmental Services, Inc.	200530-0	Rochester	NY
Patriot Environmental Laboratory Services, Inc.	200358-0	Garden Grove	CA
Philip Environmental Services Corp.	101192-0	Columbia	IL
Pinchin Environmental Ltd.	101270-0	Mississauga Ontario	CANADA
PMK Group, Inc.	101301-0	Cranford	NJ
ProScience Analytical Services, Inc.	200090-0	Woburn	MA
PSC Analytical Services	101262-0	Reading	PA
PSI	101350-0	Pittsburgh	PA
Puget Sound Naval Shipyard	101539-0	Bremerton	WA
PWC Environmental Laboratory, Pearl Harbor	200369-0	Pearl Harbor	HI
QuanTEM Laboratories, LLC	101959-0	Oklahoma City	OK
Quest MicroAnalytics	200249-0	Dallas	TX
R. Robinson Analytical Services, Inc.	102041-0	Pensacola	FL
RCM Laboratories, Inc.	101853-0	Countryside	IL
Reservoirs Environmental Services, Inc.	101896-0	Denver	CO
RI Analytical Laboratories, Inc.	101440-0	Warwick	RI
RJ Lee Group, Inc.	101208-0	Monroeville	PA
RJ Lee Group, Inc.	101208-2	San Leandro	CA
RJ Lee Group, Inc.	101208-3	Manassas	VA
Roy F. Weston, Inc.	101254-0	Auburn	AL
S&ME, Inc.	102075-0	Charlotte	NC
Safe Environment of America, Inc.	102021-0	Auburn	WA
Schneider Laboratories, Inc.	101150-0	Richmond	VA
Scientific Laboratories, Inc.	101904-0	Midlothian	VA
Scientific Laboratories, Inc.	101904-1	New York	NY
Scientific Laboratories, Inc.	200546-0	New York	NY
SCILAB BOSTON, Inc.	102079-0	East Weymouth	MA
SCILAB California, Inc.	200346-0	Carson	CA
Solar Environmental Services, Inc.	102006-0	Anchorage	AK
South Coast Air Quality Management District	101567-0	Diamond Bar	CA
STAT Analysis Corporation	101202-0	Chicago	IL
Steve Moody Micro Services, Inc.	102056-0	Carrollton	TX
Strom Environmental	200450-0	Denver	CO
Sun City Analytical, Inc.	101870-0	El Paso	TX
Taylor Environmental Group, Inc.	102101-0	Floral Park	NY
TEC-AN, Inc.	200325-0	Oklahoma City	OK
TEM, Incorporated	101130-0	Glen Ellyn	IL
Testing Mechanics Corp.	102001-0	Seaford	NY
Testwell Laboratories, Inc./Testwell Industries, Inc.	200083-0	Ossining	NY
The Scott Lawson Group, Ltd.	101228-0	Concord	NH

LABORATORY NAME	NVLAP LAB CODE	CITY	STATE/ COUNTRY
TolTest, Inc.	101594-0	Toledo	OH
TRC Environmental Corporation	101424-0	Windsor	CT
Tremco, Inc. - Roofing Division, An RPM Company	101188-0	Beachwood	OH
Triad Environmental Consulting, Inc.	102073-0	Huntington	WV
Twin Ports Testing, Inc.	102083-0	Superior	WI
U.S. Army Center for Health Promotion and Preventive Medicine	200044-0	Aberdeen Proving Ground	MD
U.S. EPA - National Enforcement Investigations Center	101703-0	Denver	CO
United Analytical Services, Inc.	101732-0	Downers Grove	IL
University (State) Hygienic Laboratory	101288-0	Iowa City	IA
University of Alabama Asbestos Laboratory	102005-0	Tuscaloosa	AL
Volz Environmental Services, Inc.	101269-0	Pittsburgh	PA
Western Analytical Laboratory, Inc.	200037-0	Arleta	CA
White Environmental Consultants Inc.	200124-0	Anchorage	AK
White Environmental Consultants, Inc.	200350-0	Honolulu	HI
White Environmental Consultants, Inc.	200509-0	Tigard	OR
Wisconsin Occupational Health Laboratory	101109-0	Madison	WI
WKP Laboratories, Inc.	101950-0	New York City	NY
Wonder Makers Environmental Inc.	102065-0	Kalamazoo	MI

Asbestos Fiber Analysis (TEM Test Method)

LABORATORY NAME	NVLAP LAB CODE	CITY	STATE/ COUNTRY
Adirondack Environmental Services Inc.	200552-0	Albany	NY
Aires Consulting Group, Inc.	101014-0	Batavia	IL
AMA Analytical Services, Inc.	101143-0	Lanham	MD
Analytica Solutions, Inc.	101086-0	Thornton	CO
Analytical Environmental Services, Inc.	102082-0	Atlanta	GA
ASBESTECH	101442-0	Carmichael	CA
Asbestos TEM Laboratories, Inc.	101891-0	Berkeley	CA
ATC Associates Inc.	101187-0	New York	NY
Athenica Environmental Services, Inc.	101958-0	Long Island City	NY
Batta Laboratories, Inc.	101032-0	Newark	DE
Braun Intertec Corporation	101234-0	Minneapolis	MN
CA Laboratories, L.L.C.	200452-0	Baton Rouge	LA
Clayton Group Services	101125-0	Kennesaw	GA
Crisp Analytical Laboratory	200349-0	Carrollton	TX
DataChem Laboratories	101917-0	Cincinnati	OH
Davis Environmental Labs, Inc.	101039-0	Chicago	IL
E. M. Analytical, Inc.	101902-0	Dania	FL
Eastern Analytical Services, Inc.	101646-0	Elmsford	NY
EMS Laboratories, Inc.	101218-0	Pasadena	CA
EMSL Analytical Inc. Bulk And Airborne Asbestos Fiber Analysis	200399-0	Chicago	IL
EMSL Analytical Inc. Mobile Laboratory	200481-0	Westmont	NJ
EMSL Analytical, Inc.	101048-0	Westmont	NJ
EMSL Analytical, Inc.	101048-1	Atlanta	GA
EMSL Analytical, Inc.	101048-2	Piscataway	NJ
EMSL Analytical, Inc.	101048-3	Milpitas	CA
EMSL Analytical, Inc.	101048-4	Ann Arbor	MI
EMSL Analytical, Inc.	101048-9	New York	NY
EMSL Analytical, Inc.	101048-10	Carle Place	NY
EMSL Analytical, Inc.	101151-0	Orlando	FL

LABORATORY NAME	NVLAP LAB CODE	CITY	STATE/ COUNTRY
EMSL Analytical, Inc.	102104-0	Greensboro	NC
EMSL Analytical, Inc.	102106-0	Houston	TX
EMSL Analytical, Inc.	200019-0	Minneapolis	MN
EMSL Analytical, Inc.	200034-0	Dallas	TX
EMSL Analytical, Inc.	200056-0	Depew	NY
EMSL Analytical, Inc.	200188-0	Indianapolis	IN
EMSL Analytical, Inc.	200204-0	N. Miami Beach	FL
EMSL Analytical, Inc.	200293-0	Beltsville	MD
EMSL Analytical, Inc.	200333-0	Elmsford	NY
EMSL Analytical, Inc.	200375-0	Baton Rouge	LA
Enviroscience Consultants, Inc.	200531-0	Ronkonkoma	NY
Fiberquant, Inc.	101031-0	Phoenix	AZ
Forensic Analytical	101459-0	Hayward	CA
Gelles Laboratories, Division, CC Technologies	101170-0	Dublin	OH
Hygeia Laboratories Inc.	102116-0	Sierra Madre	CA
Hygeia Laboratories, Inc.	200335-0	Miami	FL
Hygienetics Laboratory Services	101147-0	Boston	MA
International Asbestos Testing Laboratory	101165-0	Mt. Laurel	NJ
J3 Resources, Inc.	200525-0	Houston	TX
JMS Environmental Associates, Ltd.	102012-0	Westmont	IL
KAM Consultants	102047-0	Long Island City	NY
KSL	200442-0	Jackson	CA
LA Testing	200232-0	S. Pasadena	CA
Lab/Cor, Inc.	101920-0	Seattle	WA
Los Angeles Unified School District	101505-0	Los Angeles	CA
MACS Lab, Inc.	101948-0	Santa Clara	CA
Materials Analytical Services, Inc.	101235-0	Suwanee	GA
McCall and Spero Environmental, Inc.	101895-0	Louisville	KY
Micro Analytical Laboratories, Inc.	101872-0	Emeryville	CA
Midwest Laboratories, Inc.	101894-0	Countryside	IL
Paradigm Environmental Services, Inc.	200530-0	Rochester	NY
ProScience Analytical Services, Inc.	200090-0	Woburn	MA
PSI	101350-0	Pittsburgh	PA
QuanTEM Laboratories, LLC	101959-0	Oklahoma City	OK
Reservoirs Environmental Services, Inc.	101896-0	Denver	CO
RJ Lee Group, Inc.	101208-0	Monroeville	PA
RJ Lee Group, Inc.	101208-2	San Leandro	CA
RJ Lee Group, Inc.	101208-3	Manassas	VA
Scientific Laboratories, Inc.	101904-0	Midlothian	VA
Scientific Laboratories, Inc.	101904-1	New York	NY
Scientific Laboratories, Inc.	200546-0	New York	NY
SCILAB BOSTON, Inc.	102079-0	East Weymouth	MA
SCILAB California, Inc.	200346-0	Carson	CA
STAT Analysis Corporation	101202-0	Chicago	IL
Steve Moody Micro Services, Inc.	102056-0	Carrollton	TX
TEM, Incorporated	101130-0	Glen Ellyn	IL
Testwell Laboratories, Inc./Testwell Industries, Inc.	200083-0	Ossining	NY
United Analytical Services, Inc.	101732-0	Downers Grove	IL

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FASTENER & METALS GROUP

Fasteners & Metals

LABORATORY NAME	NVLAP LAB CODE	CITY	STATE/ COUNTRY
Aerospace NYLOK - a subsidiary of the NYLOK Fastener Corporation	200271-0	Hawthorne	NJ
BCAG Fastener Quality Test Lab Everett Site	200292-0	Seattle	WA
Belgo-Mineira Chemical Laboratory	200497-0	35.930-900 Joao Monlevade	BRAZIL
Binder Metal Products, Inc.	200321-0	Gardena	CA
California Screw Products	200183-0	Paramount	CA
Casey Products, Inc.	200278-0	Lisle	IL
CBS Fasteners, Inc.	200253-0	Anaheim	CA
Dexter Fastener Technologies, Inc.	200144-0	Dexter	MI
Fastener Innovation Technology, Inc.	200179-0	Gardena	CA
Fong Prean Industrial Co., Ltd.	200288-0	Kaohsiung Hsien	TAIWAN
Fuji Buhin Industries Inc.	200203-0	Ohta Gunma	JAPAN
Fuji Component Parts USA, Inc.	200180-0	Indianapolis	IN
Ingersoll Fasteners	200208-0	Ingersoll Ontario	CANADA
Ivaco Rolling Mills, Chemistry Laboratory	200143-0	L'Orignal Ontario	CANADA
Kobelco Research Institute, Inc. Stock Company	200169-0	Kobe	JAPAN
Kyowa Kogyosyo Co., Ltd. Test Laboratory	200274-0	Komatsu City, Ishikawa	JAPAN
Leland-Powell Fasteners, Inc. Fastener Testing Laboratory	200171-0	Martin	TN
MAC Fasteners, Inc.	200141-0	Ottawa	KS
MacLean Fasteners - QC Laboratory	200153-0	Mundelein	IL
MacLean Maynard Laboratory Services	200451-0	Chesterfield Township	MI
Minebea Co., Ltd. Fujisawa Manufacturing Unit	200229-0	Fujisawa, Kanagawa	JAPAN
Modern Plating Corporation	200320-0	Freeport	IL
NOVA Machine Products	200202-0	Middleburg Heights	OH
NYLOK Fastener Corporation	200272-0	Anaheim	CA
O & K Company Limited, Osaka Test Center	200166-0	Osaka-Shi	JAPAN
Okawa Laboratory	200296-0	Naka-gun, Ibaraki-ken	JAPAN
PB Fasteners	200139-0	Gardena	CA
Pratt & Whitney Materials Control Lab/Quality & Standards Lab	200336-0	East Hartford	CT
Prospect Testing Labs, Inc.	200328-0	Des Plaines	IL
Prottsa, S.A. de C.V.	200261-0	Mexico City	MEXICO
Rockford Bolt & Steel Co.	200255-0	Rockford	IL
San Shing Hardware Works Co., Ltd. Test Laboratory	200158-0	Tainan	TAIWAN
Saturn Fasteners, Inc.	200327-0	Burbank	CA
SNB Laboratory	200308-0	Cumberland	RI
Sumitomo Metals (Kokura), Ltd. Quality System Section	200215-0	Kitakyushu	JAPAN
Sundram Fasteners Limited (Inhouse test laboratory)	200212-0	Chennai (Madras),Tamil Nadu	INDIA
Sundram Fasteners Limited Chemical Testing Laboratory	200256-0	Andhra Pradesh	INDIA
United Steel and Fasteners Inc.	200341-0	Itasca	IL
Vermont Fasteners Manufacturing	200254-0	Swanton	VT
Wolverine Plating Corp.	200230-0	Roseville	MI

INFORMATION TECHNOLOGY SECURITY TESTING GROUP

Common Criteria Testing

LABORATORY NAME	NVLAP LAB CODE	CITY	STATE/ COUNTRY
Arca Systems SEAL Common Criteria Testing Laboratory	200429-0	Columbia	MD
COACT Inc. CAFE Laboratory	200416-0	Columbia	MD
Computer Sciences Corporation	200426-0	Annapolis Junction	MD
Cygnacom Solutions, Inc. An Entrust Company	200002-0	McLean	VA
SAIC Accredited Lab Center for Evaluation & Testing (SALCET)	200427-0	Columbia	MD
TUViT, IT Security Laboratory	200428-0	Austin	TX

Cryptographic Module Testing

LABORATORY NAME	NVLAP LAB CODE	CITY	STATE/ COUNTRY
Atlan Laboratories	200492-0	McLean	VA
COACT Inc. CAFE Laboratory	200416-0	Columbia	MD
Cygnacom Solutions, Inc. An Entrust Company	200002-0	McLean	VA
DOMUS Information Technology Security Laboratory	200017-0	Ottawa Ontario	CANADA
EWA - Canada Ltd, IT Security Evaluation Facility	200556-0	Ottawa Ontario	CANADA
InfoGard Laboratories, Inc.	100432-0	San Luis Obispo	CA

PRODUCT TESTING GROUP

Acoustical Testing Services

LABORATORY NAME	NVLAP LAB CODE	CITY	STATE/ COUNTRY
Acoustic Systems Acoustical Research Facility	100286-0	Austin	TX
Aearo Company, E·A·RCAL Acoustical Laboratory	100374-0	Indianapolis	IN
Architectural Testing Inc.	200361-0	York	PA
Armstrong Acoustic Labs, Armstrong World Ind., Inc. Innov. Center	100228-0	Lancaster	PA
Auditory Systems Laboratory, ISE Department, Virginia Tech	200479-0	Blacksburg	VA
BPB America, Inc.	200520-0	Clearwater	FL
Dell Regulatory Test Laboratories	200052-0	Round Rock	TX
Howard Leight Acoustical Testing Laboratory	200475-0	San Diego	CA
Hufcor Acoustical Laboratory	100239-0	Janesville	WI
IBM Hudson Valley Acoustics Laboratory	100323-0	Poughkeepsie	NY
Industrial Acoustics Company, Inc., Aero-Acoustics Laboratory	100404-0	Bronx	NY
Integrex Testing Systems -Acoustic & Thermal Testing Laboratories	100109-0	Granville	OH
Johns Manville Technical Center	100425-0	Littleton	CO
McGill AirFlow Corp. Airflow and Acoustical Testing Laboratory	200463-0	Westerville	OH
Michael & Associates	100427-0	State College	PA
NGC Testing Services, National Gypsum Research Center	200291-0	Buffalo	NY
Orfield Laboratories, Inc.	200248-0	Minneapolis	MN

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LABORATORY NAME	NVLAP LAB CODE	CITY	STATE/ COUNTRY
PCI Industries Acoustical Testing Laboratories	200453-0	Fort Worth	TX
Ricoh Company LTD. Ohmori Acoustics Test Site	200345-0	Tokyo	JAPAN
Riverbank Acoustical Laboratories	100227-0	Geneva	IL
Stork-Twin City Testing Corporation	200046-0	St. Paul	MN
USG Research - Construction Systems Laboratory	200132-0	Libertyville	IL
Vibro-Acoustics Laboratory	100424-0	Scarborough Ontario	CANADA
Western Electro-Acoustic Lab., Inc.	100256-0	Santa Clarita	CA

Carpet and Carpet Cushion

LABORATORY NAME	NVLAP LAB CODE	CITY	STATE/ COUNTRY
Beaulieu of America - Carpet Testing Lab	100190-0	Dalton	GA
Bentley Prince Street Testing Laboratory	100288-0	City of Industry	CA
Commercial Testing Company	100120-0	Dalton	GA
Independent Textile Testing Service, Inc.	100166-0	Dalton	GA
Interface Testing Laboratory	200402-0	LaGrange	GA
Mohawk Industries, Inc.- Lyerly Plant	100156-0	Lyerly	GA
Professional Testing Laboratory, Inc.	100297-0	Dalton	GA
Shaw Industries, Inc., Central Laboratory Operations	100193-0	Dalton	GA
TSi, Testing Services, Inc.	100108-0	Dalton	GA

Commercial Products Testing

LABORATORY NAME	NVLAP LAB CODE	CITY	STATE/ COUNTRY
CSA International	100322-0	Toronto Ontario	CANADA
DL Labs, Inc.	100252-0	New York	NY
Dodge-Regupol, Inc. Laboratory	200030-0	Lancaster	PA
IAPMO Testing and Services, L.L.C.	200460-0	Walnut	CA
IBM Shock and Vibration Laboratory	200503-0	Poughkeepsie	NY
NAHB Research Center, Inc.	100104-0	Upper Marlboro	MD
SGS U.S. Testing Company, Inc.	100416-0	Tulsa	OK
Willamette Industries, Inc. West Coast Development Lab	200045-0	Wilsonville	OR

Construction Materials Testing

LABORATORY NAME	NVLAP LAB CODE	CITY	STATE/ COUNTRY
Advance Testing Company Inc.	200514-0	Campbell Hall	NY
American Testing Laboratories, Inc.	100146-0	Lancaster	PA
ASC geoscience, inc.	200567-0	Fort Myers	FL
City of San Jose, Materials Testing Laboratory	100325-0	San Jose	CA
Eastern Materials Testing Lab a division of Jaworski Geotech	100315-0	Berlin	CT
Fairfield Testing Laboratory, Inc.	100317-0	Stamford	CT
Fairway Testing Company, Inc.	100340-0	Stony Point	NY
Independent Materials Testing Laboratories, Inc.	100316-0	Plainville	CT
INEEL Materials Testing Lab CFA 602	200415-0	Idaho Falls	ID
Inland Foundation Engineering, Inc.	100406-0	San Jacinto	CA
Materials Testing, Inc.	100320-0	Milford	CT
Special Testing Laboratories, Inc.	100308-0	Bethel	CT
STS Consultants, Ltd.	100191-0	Vernon Hills	IL
Test-Con Incorporated	200018-0	Danbury	CT
Testwell Laboratories, Inc./Testwell Industries, Inc.	200083-0	Ossining	NY

LABORATORY NAME	NVLAP LAB CODE	CITY	STATE/ COUNTRY
Tri-State Materials Testing Lab, Inc.	200010-0	Wallingford	CT
W.R. Grace & Co.	200258-0	Cambridge	MA

Efficiency of Electric Motors

LABORATORY NAME	NVLAP LAB CODE	CITY	STATE/ COUNTRY
A.O. Smith (Lexington) Engineering Laboratory	200053-0	Lexington	TN
Advanced Energy, Industrial Energy Laboratory	200081-0	Raleigh	NC
Baldor Motor Design Lab	200537-0	Fort Smith	AR
C.I.M.D. Engr. Dev. Lab	200522-0	Fort Wayne	IN
GE Owensboro Test Laboratory	200305-0	Owensboro	KY
Marathon Electric - Wausau Engineering Lab.	200134-0	Wausau	WI
Motor Test Lab of Toshiba Industrial Products Manufacturing Corp.	200529-0	Asahi-cho Mie-gun Mie-ken	JAPAN
Ram Industries Motor Test Laboratory	200542-0	Leesport	PA
Regal Beloit Motor Technologies Group - Grafton Engineering Lab	200483-0	Grafton	WI
Shanghai Testing & Inspection Institute for Electrical Equipment	200407-0	Shanghai 200063	CHINA
Small IAC Test Laboratory	200287-0	Peterborough, ON	CANADA
TECO Electric & Machinery Co., Ltd.	200378-0	Taoyuan	TAIWAN
Teco Industry (Malaysia) SDN. BHD.	200476-0	Penang	MALAYSIA
Toshiba/Houston Test Laboratory	200088-0	Houston	TX
USEM de Mexico, S.A. de C.V.	200506-0	Apodaca NL	MEXICO

Energy Efficient Lighting Products

LABORATORY NAME	NVLAP LAB CODE	CITY	STATE/ COUNTRY
Bay Area Compliance Laboratory Corp.	200167-0	Sunnyvale	CA
Cooper Lighting - Metalux Research Laboratories	200050-0	Americus	GA
Daybrite Lighting (Genlyte Thomas Group) Photometric Laboratory	200016-0	Tupelo	MS
GE Lighting- Product Testing	100398-0	Cleveland	OH
Hubbell Lighting Photometric Laboratory	200020-0	Christiansburg	VA
Intertek Testing Services NA Inc.	100402-0	Cortland	NY
Lighting Research Center Lighting Products	200480-0	Troy	NY
Litetronics International	200504-0	Alsip	IL
Lithonia Testing Laboratories	200007-0	Conyers	GA
Osram Sylvania, Applications & Measurements Laboratory	100403-0	Beverly	MA
Philips Lighting Corporate Calibration & Standards Laboratory	100399-0	Salina	KS
Underwriters Laboratories, Inc.	100255-0	Melville	NY

Thermal Insulation Materials

LABORATORY NAME	NVLAP LAB CODE	CITY	STATE/ COUNTRY
Dow Chemical N. America Foam Products Research, Prod. Perf. Lab.	100103-0	Midland	MI
Geoscience Ltd.	100142-0	San Diego	CA
Integrex Testing Systems -Acoustic & Thermal Testing Laboratories	100109-0	Granville	OH
Johns Manville Technical Center	100425-0	Littleton	CO
Knauf Fiber Glass Research Laboratory	100248-0	Shelbyville	IN
Levecque Technical Center	100101-0	Blue Bell	PA
NAHB Research Center, Inc.	100104-0	Upper Marlboro	MD
Netzsch Instruments, Inc.	100113-0	Bedford	MA

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LABORATORY NAME	NVLAP LAB CODE	CITY	STATE/ COUNTRY
R & D Services, Inc.	200265-0	Cookeville	TN
SGS U.S. Testing Company, Inc.	100416-0	Tulsa	OK
St. of California, Bur. of Home Furnishings & Thermal Insulation	100251-0	North Highlands	CA
The Dow Chemical Company- NA System House-Joliet	100210-0	Joliet	IL
Underwriters Laboratories Inc.	100414-0	Northbrook	IL
Wood Based Products			
APA - The Engineered Wood Association Research Center	100423-0	Tacoma	WA
Composite Panel Association (CPA)	100418-0	Gaithersburg	MD
PFS Corporation	100421-0	Madison	WI
Professional Service Industries, Inc., Pittsburgh Test. Lab. Div.	100430-0	Eugene	OR
Timberco, Inc.- dba TECO	100420-0	Eugene	OR

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LISTING BY STATE/ COUNTRY

INDEX C. LISTING BY STATE/COUNTRY

LABORATORY NAME	NVLAP LAB CODE	CITY	STATE/ COUNTRY	FIELD
AK				
Northern Testing Laboratories, Inc.	101463-0	Fairbanks	AK	PLM
Solar Environmental Services, Inc.	102006-0	Anchorage	AK	PLM
White Environmental Consultants Inc.	200124-0	Anchorage	AK	PLM
AL				
Law Engineering and Environmental Services, Inc.	101066-0	Birmingham	AL	PLM
Roy F. Weston, Inc.	101254-0	Auburn	AL	PLM
U.S. Army Radiation Standards & Dosimetry Laboratory	100539-0	Redstone Arsenal	AL	Dosimetry
University of Alabama Asbestos Laboratory	102005-0	Tuscaloosa	AL	PLM
AR				
Baldor Motor Design Lab	200537-0	Fort Smith	AR	Electric Motors
Environmental Enterprise Group(EEG), Inc.	101587-0	Russellville	AR	PLM
AZ				
A.E.S.L. Environmental Laboratory	200303-0	Tempe	AZ	PLM
AMEC Earth & Environmental, Inc., PLM LAB	200444-0	Phoenix	AZ	PLM
Arizona Department of Weights and Measures Metrology Laboratory	200381-0	Glendale	AZ	Calibration
Arizona Public Service Co., Palo Verde Nuclear Generating Station	100536-0	Tonopah	AZ	Dosimetry
Continental Envirotech, Inc.	200080-0	Mesa	AZ	PLM
Environmental Management Consultants, Inc.	101926-0	Scottsdale	AZ	PLM
Fiberquant, Inc.	101031-0	Phoenix	AZ	PLM
Fiberquant, Inc.	101031-0	Phoenix	AZ	TEM
General Dynamics Decision Systems	100405-0	Scottsdale	AZ	EC&T
Law Engineering and Environmental Services, Inc.	102035-0	Phoenix	AZ	PLM
RMS EMI Laboratory MIL-STD 462C/D	200489-0	Tucson	AZ	EC&T
CA				
Analytical Labs San Francisco, Inc.	101909-0	San Francisco	CA	PLM
Apple Computer, Inc., EMC Compliance Laboratory	200071-0	Cupertino	CA	EC&T
ASBESTECH	101442-0	Carmichael	CA	PLM
ASBESTECH	101442-0	Carmichael	CA	TEM
Asbestos TEM Laboratories, Inc.	101891-0	Berkeley	CA	PLM
Asbestos TEM Laboratories, Inc.	101891-0	Berkeley	CA	TEM
AST International Environmental Consultants Inc.	200474-0	Spring Valley	CA	PLM
Bay Area Air Quality Management District	102090-0	San Francisco	CA	PLM
Bay Area Compliance Laboratory Corp.	200167-0	Sunnyvale	CA	EC&T
Bay Area Compliance Laboratory Corp.	200167-0	Sunnyvale	CA	Lighting
Bentley Prince Street Testing Laboratory	100288-0	City of Industry	CA	Carpet
Binder Metal Products, Inc.	200321-0	Gardena	CA	Fasteners
California Screw Products	200183-0	Paramount	CA	Fasteners
CBS Fasteners, Inc.	200253-0	Anaheim	CA	Fasteners
Cisco Systems, Inc.	200114-0	San Jose	CA	EC&T

LABORATORY NAME	NVLAP LAB CODE	CITY	STATE/ COUNTRY	FIELD
City of Los Angeles Department of Water and Power	101111-0	Los Angeles	CA	PLM
City of San Jose, Materials Testing Laboratory	100325-0	San Jose	CA	Construction
Clark Seif Clark, Inc.	200324-0	Chatsworth	CA	PLM
Compatible Electronics, Inc.	200063-0	Agoura	CA	EC&T
Compatible Electronics, Inc.	200527-0	Silverado/Lake Forest	CA	EC&T
Compatible Electronics, Inc.	200528-0	Brea	CA	EC&T
Compliance Eng. Svces, Inc., Compliance Certification Services	200065-0	Morgan Hill	CA	EC&T
Concord Analysis, Inc.	101884-0	Chatsworth	CA	PLM
CTL Environmental Services	101216-0	Harbor City	CA	PLM
Design for Health Environmental Services	101864-0	San Diego	CA	PLM
Electro Magnetic Test, Inc.	200147-0	Mountain View	CA	EC&T
Elliott Laboratories, Inc.	200069-0	Sunnyvale	CA	EC&T
EMC Compliance Mgmt Group, dba Turntech Scientific & Instr., Inc.	200068-0	Mountain View	CA	EC&T
EMCE Engineering, Inc.	200092-0	Fremont	CA	EC&T
EMS Laboratories, Inc.	101218-0	Pasadena	CA	PLM
EMS Laboratories, Inc.	101218-0	Pasadena	CA	TEM
EMSL Analytical, Inc.	101048-3	Milpitas	CA	PLM
EMSL Analytical, Inc.	101048-3	Milpitas	CA	TEM
ENCORP	200013-0	El Segundo	CA	PLM
Envirocheck, Inc.	200548-0	Garden Grove	CA	PLM
Environmental Science Services, Inc.	200424-0	Lockeford	CA	PLM
Fastener Innovation Technology, Inc.	200179-0	Gardena	CA	Fasteners
Forensic Analytical	101459-0	Hayward	CA	PLM
Forensic Analytical	101459-0	Hayward	CA	TEM
Forensic Analytical Specialties, Inc.	101459-1	Rancho Dominguez	CA	PLM
Garwood Laboratories, Inc.	200119-0	Placentia	CA	EC&T
Geoscience Ltd.	100142-0	San Diego	CA	Thermal Insl.
Global Testing	200436-0	Santa Ana	CA	EC&T
Health Science Associates	101384-0	Los Alamitos	CA	PLM
Hewlett Packard, Product Test Lab, San Diego	200138-0	San Diego	CA	EC&T
Hi-Tech Environmental and Laboratory Services	102013-0	Cypress	CA	PLM
Howard Leight Acoustical Testing Laboratory	200475-0	San Diego	CA	Acoustics
Hygeia Laboratories Inc.	102116-0	Sierra Madre	CA	PLM
Hygeia Laboratories Inc.	102116-0	Sierra Madre	CA	TEM
IAPMO Testing and Services, L.L.C.	200460-0	Walnut	CA	Commercial
ICN Worldwide Dosimetry Service, Div. of ICN Biomedicals, Inc.	100555-0	Costa Mesa	CA	Dosimetry
InfoGard Laboratories, Inc.	100432-0	San Luis Obispo	CA	Cryptographic
Inland Foundation Engineering, Inc.	100406-0	San Jacinto	CA	Construction
International Technology Company (ITC)	200172-0	Sunol	CA	EC&T
Intertek Testing Services	200201-0	Menlo Park	CA	EC&T
Intertek Testing Services NA Inc.	200297-0	Laguna Niguel	CA	EC&T
JMR Compliance Engineering	200413-0	Chatsworth	CA	EC&T
JMR Environmental Services Inc.	200067-0	San Diego	CA	PLM
Kellco Services, Inc.	101331-0	Hayward	CA	PLM

LABORATORY NAME	NVLAP LAB CODE	CITY	STATE/ COUNTRY	FIELD
KSL	200442-0	Jackson	CA	PLM
KSL	200442-0	Jackson	CA	TEM
LA Testing	200232-0	S. Pasadena	CA	PLM
LA Testing	200232-0	S. Pasadena	CA	TEM
Los Angeles Unified School District	101505-0	Los Angeles	CA	PLM
Los Angeles Unified School District	101505-0	Los Angeles	CA	TEM
MACS Lab, Inc.	101948-0	Santa Clara	CA	PLM
MACS Lab, Inc.	101948-0	Santa Clara	CA	TEM
MET Laboratories Incorporated	200445-0	Union City	CA	EC&T
Micro Analytical Laboratories, Inc.	101872-0	Emeryville	CA	PLM
Micro Analytical Laboratories, Inc.	101872-0	Emeryville	CA	TEM
Micron Environmental Labs	200294-0	Arcadia	CA	PLM
Mitsubishi Digital Electronics America, Inc. EMC Test Lab	200498-0	Irvine	CA	EC&T
National Econ Corporation	102062-0	Tustin	CA	PLM
NCR Corp. San Diego EMC Lab	200383-0	San Diego	CA	EC&T
Nemko EESI, Inc.	200116-0	San Diego	CA	EC&T
NYLOK Fastener Corporation	200272-0	Anaheim	CA	Fasteners
Pacific Gas & Electric Company, Diablo Canyon Nuclear Power Plant	100537-0	Avila Beach	CA	Dosimetry
Patriot Environmental Laboratory Services, Inc.	200358-0	Garden Grove	CA	PLM
PB Fasteners	200139-0	Gardena	CA	Fasteners
PDE Laboratories	200082-0	San Clemente	CA	EC&T
Radiation Detection Company	100512-0	Gilroy	CA	Dosimetry
Raytheon Electronic Systems,California Engineering EEE Laboratory	200431-0	El Segundo	CA	EC&T
RJ Lee Group, Inc.	101208-2	San Leandro	CA	PLM
RJ Lee Group, Inc.	101208-2	San Leandro	CA	TEM
Sanmina Homologation Services	100411-0	San Jose	CA	EC&T
Saturn Fasteners, Inc.	200327-0	Burbank	CA	Fasteners
SCILAB California, Inc.	200346-0	Carson	CA	PLM
SCILAB California, Inc.	200346-0	Carson	CA	TEM
SE Laboratories, Inc.	200338-0	Santa Clara	CA	Calibration
Sony Electronics Inc. Product Quality Division EMC Group	200312-0	San Diego	CA	EC&T
South Coast Air Quality Management District	101567-0	Diamond Bar	CA	PLM
Southern California Edison Company	105014-0	Westminster	CA	Calibration
St. of California, Bur. of Home Furnishings & Thermal Insulation	100251-0	North Highlands	CA	Thermal Insl.
Sun Microsystems, Inc. EMC Testing	200363-0	Palo Alto	CA	EC&T
TUV Product Service, Inc.	100268-0	San Diego	CA	EC&T
Underwriters Laboratories	200252-0	Santa Clara	CA	EC&T
Underwriters Laboratories Inc.	200535-0	Sunol	CA	EC&T
Universal Compliance Laboratories	200117-0	San Jose	CA	EC&T
VLSI Standards, Inc.	200302-0	San Jose	CA	Calibration
Western Analytical Laboratory, Inc.	200037-0	Arleta	CA	PLM
Western Electro-Acoustic Lab., Inc.	100256-0	Santa Clarita	CA	Acoustics

CO

LABORATORY NAME	NVLAP LAB CODE	CITY	STATE/ COUNTRY	FIELD
Alpine Consulting, Inc.	102089-0	Colorado Springs	CO	PLM
Analytica Solutions, Inc.	101086-0	Thornton	CO	PLM
Analytica Solutions, Inc.	101086-0	Thornton	CO	TEM

LABORATORY NAME	NVLAP LAB CODE	CITY	STATE/ COUNTRY	FIELD
ATC Associates, Inc.	102031-0	Englewood	CO	PLM
Compaq Computer Corp. EMC Test Facility	200078-0	Colorado Springs	CO	EC&T
Criterion Technology Corp.	100396-0	Rollinsville	CO	EC&T
DCM Science Laboratory, Inc.	101258-0	Wheat Ridge	CO	PLM
Denver Instrument Co. Weight Lab	200106-0	Arvada	CO	Calibration
Environmental Resource Associates (ERA)	200386-0	Arvada	CO	PPT
Family Analytical Laboratory Services, Inc.	200448-0	Denver	CO	PLM
FRS Geotech, Inc.	102078-0	Denver	CO	PLM
Johns Manville Technical Center	100425-0	Littleton	CO	Acoustics
Johns Manville Technical Center	100425-0	Littleton	CO	Thermal Insl.
National Environmental Reference Laboratory	101593-0	Denver	CO	PLM
Reservoirs Environmental Services, Inc.	101896-0	Denver	CO	PLM
Reservoirs Environmental Services, Inc.	101896-0	Denver	CO	TEM
Storagtek Open Area Test Site	200251-0	Louisville	CO	EC&T
Strom Environmental	200450-0	Denver	CO	PLM
TUV Product Service, Inc.	100271-1	Boulder	CO	EC&T
U.S. EPA - National Enforcement Investigations Center	101703-0	Denver	CO	PLM

CT

LABORATORY NAME	NVLAP LAB CODE	CITY	STATE/ COUNTRY	FIELD
Absolute Standards, Inc.	200390-0	Hamden	CT	PPT
AccuStandard, Inc.	200389-0	New Haven	CT	PPT
ChemScope, Inc.	101061-0	North Haven	CT	PLM
Connecticut Department of Public Health Laboratory	101237-0	Hartford	CT	PLM
Dominion Nuclear Connecticut, Inc.	100540-0	Waterford	CT	Dosimetry
Eastern Materials Testing Lab a division of Jaworski Geotech	100315-0	Berlin	CT	Construction
EnviroMed Services, Inc.	101514-0	New Haven	CT	PLM
Fairfield Testing Laboratory, Inc.	100317-0	Stamford	CT	Construction
General Dynamics, Electric Boat	100560-0	Groton	CT	Dosimetry
HYGENIX, INC.	101199-0	Stamford	CT	PLM
Independent Materials Testing Laboratories, Inc.	100316-0	Plainville	CT	Construction
Materials Testing, Inc.	100320-0	Milford	CT	Construction
Mystic Air Quality Consultants, Inc.	101282-0	Groton	CT	PLM
Pratt & Whitney Materials Control Lab/Quality & Standards Lab	200336-0	East Hartford	CT	Fasteners
Special Testing Laboratories, Inc.	100308-0	Bethel	CT	Construction
Test-Con Incorporated	200018-0	Danbury	CT	Construction
TRC Environmental Corporation	101424-0	Windsor	CT	PLM
Tri-State Materials Testing Lab, Inc.	200010-0	Wallingford	CT	Construction
TUV Rheinland of North America, Inc.	200111-0	Newtown	CT	EC&T

DE

LABORATORY NAME	NVLAP LAB CODE	CITY	STATE/ COUNTRY	FIELD
Batta Laboratories, Inc.	101032-0	Newark	DE	PLM
Batta Laboratories, Inc.	101032-0	Newark	DE	TEM
Environmental Testing, Inc.	101848-0	Middletown	DE	PLM

LABORATORY NAME	NVLAP LAB CODE	CITY	STATE/ COUNTRY	FIELD
FL				
Advanced Industrial Hygiene Services, Inc.	101006-0	Miami	FL	PLM
American Asbestos Laboratories, Inc.	101775-0	Miami Lakes	FL	PLM
Apollo Environmental, Inc.	101871-0	Gibsonton	FL	PLM
ASC geoscience, inc.	200567-0	Fort Myers	FL	Construction
BPB America, Inc.	200520-0	Clearwater	FL	Acoustics
Comprehensive Health Services-Environmental Health PLM Laboratory	101759-0	Kennedy Space Center	FL	PLM
Dove Environmental Corporation	102053-0	Miami	FL	PLM
E. M. Analytical, Inc.	101902-0	Dania	FL	TEM
EMSL Analytical, Inc.	101151-0	Orlando	FL	PLM
EMSL Analytical, Inc.	101151-0	Orlando	FL	TEM
EMSL Analytical, Inc.	200204-0	N. Miami Beach	FL	PLM
EMSL Analytical, Inc.	200204-0	N. Miami Beach	FL	TEM
Florida Power & Light Company	100544-0	Juno Beach	FL	Dosimetry
GLE Associates, Inc.	102003-0	Tampa	FL	PLM
Harris Corporation GCSD EMI Test Laboratory	200500-0	Melbourne	FL	EC&T
Hygeia Laboratories, Inc.	200335-0	Miami	FL	PLM
Hygeia Laboratories, Inc.	200335-0	Miami	FL	TEM
Law Engineering and Environmental Services, Inc.	101515-0	Tampa	FL	PLM
Law Engineering and Environmental Services, Inc.	101515-1	Miami Lakes	FL	PLM
Occupational Health Conservation, Inc.	102050-0	Jacksonville	FL	PLM
Palmetto Laboratory, Inc.	102077-0	St. Petersburg	FL	PLM
Paradyne Corporation	200125-0	Largo	FL	EC&T
R. Robinson Analytical Services, Inc.	102041-0	Pensacola	FL	PLM
GA				
Analytical Environmental Services, Inc.	102082-0	Atlanta	GA	PLM
Analytical Environmental Services, Inc.	102082-0	Atlanta	GA	TEM
Beaulieu of America - Carpet Testing Lab	100190-0	Dalton	GA	Carpet
Cape Environmental Management, Inc.	102111-0	Atlanta	GA	PLM
Clayton Group Services	101125-0	Kennesaw	GA	PLM
Clayton Group Services	101125-0	Kennesaw	GA	TEM
Commercial Testing Company	100120-0	Dalton	GA	Carpet
Cooper Lighting - Metalux Research Laboratories	200050-0	Americus	GA	Lighting
EMSL Analytical, Inc.	101048-1	Atlanta	GA	PLM
EMSL Analytical, Inc.	101048-1	Atlanta	GA	TEM
Georgia Power Company/Enviro. Affairs, Enviro. Lab-Dosimetry	100551-0	Smyrna	GA	Dosimetry
Hygeia Laboratories, Inc.	102087-0	Marietta	GA	PLM
Independent Textile Testing Service, Inc.	100166-0	Dalton	GA	Carpet
Interface Testing Laboratory	200402-0	LaGrange	GA	Carpet
Lithonia Testing Laboratories	200007-0	Conyers	GA	Lighting
Materials Analytical Services, Inc.	101235-0	Suwanee	GA	PLM
Materials Analytical Services, Inc.	101235-0	Suwanee	GA	TEM
Mohawk Industries, Inc.- Lyerly Plant	100156-0	Lyerly	GA	Carpet
Professional Testing Laboratory, Inc.	100297-0	Dalton	GA	Carpet

(See 'How To Use This Directory' on page 7.)

LABORATORY NAME	NVLAP LAB CODE	CITY	STATE/ COUNTRY	FIELD
Shaw Industries, Inc., Central Laboratory Operations	100193-0	Dalton	GA	Carpet
SWFLANT Calibration Laboratory Operated by Lockheed Martin	200403-0	Kings Bay	GA	Calibration
TSi, Testing Services, Inc.	100108-0	Dalton	GA	Carpet
United States Technologies, Inc.	200162-0	Alpharetta	GA	EC&T
HI				
EnvironMETeo Services Inc.	101807-0	Waipahu	HI	PLM
Globeteck Group, Inc.	200541-0	Honolulu	HI	PLM
PWC Environmental Laboratory, Pearl Harbor	200369-0	Pearl Harbor	HI	PLM
White Environmental Consultants, Inc.	200350-0	Honolulu	HI	PLM
IA				
Intermec Technologies Corporation	100269-0	Cedar Rapids	IA	EC&T
Iowa Environmental Services, Inc.	101990-0	Des Moines	IA	PLM
Liberty Labs, Inc.	200123-0	Kimballton	IA	Calibration
University (State) Hygienic Laboratory	101288-0	Iowa City	IA	PLM
ID				
Bechtel BWXT Idaho, Standards and Calibration Lab	200115-0	Idaho Falls	ID	Calibration
INEEL Materials Testing Lab CFA 602	200415-0	Idaho Falls	ID	Construction
RESL - DOE Laboratory Accreditation Program	200366-0	Idaho Falls	ID	Calibration
IL				
Aires Consulting Group, Inc.	101014-0	Batavia	IL	PLM
Aires Consulting Group, Inc.	101014-0	Batavia	IL	TEM
AnalyticaLab	101727-0	Willow Springs	IL	PLM
Casey Products, Inc.	200278-0	Lisle	IL	Fasteners
D.L.S. Electronic Systems, Inc.	100276-0	Wheeling	IL	EC&T
Davis Environmental Labs, Inc.	101039-0	Chicago	IL	PLM
Davis Environmental Labs, Inc.	101039-0	Chicago	IL	TEM
Elite Electronic Engineering Inc.	100278-0	Downers Grove	IL	EC&T
EMSL Analytical Inc. Bulk And Airborne Asbestos Fiber Analysis	200399-0	Chicago	IL	PLM
EMSL Analytical Inc. Bulk And Airborne Asbestos Fiber Analysis	200399-0	Chicago	IL	TEM
Hygieneering, Inc.	101997-0	Willowbrook	IL	PLM
JMS Environmental Associates, Ltd.	102012-0	Westmont	IL	PLM
JMS Environmental Associates, Ltd.	102012-0	Westmont	IL	TEM
Landauer, Inc.	100518-0	Glenwood	IL	Dosimetry
Litetronics International	200504-0	Alsip	IL	Lighting
MacLean Fasteners - QC Laboratory	200153-0	Mundelein	IL	Fasteners
Metrology Concepts Inc., dba Tri-State Calibration	200505-0	Antioch	IL	Calibration
Midwest Laboratories, Inc.	101894-0	Countryside	IL	PLM
Midwest Laboratories, Inc.	101894-0	Countryside	IL	TEM
Modern Plating Corporation	200320-0	Freeport	IL	Fasteners
Philip Environmental Services Corp.	101192-0	Columbia	IL	PLM
Prospect Testing Labs, Inc.	200328-0	Des Plaines	IL	Fasteners

LABORATORY NAME	NVLAP LAB CODE	CITY	STATE/ COUNTRY	FIELD
RCM Laboratories, Inc.	101853-0	Countryside	IL	PLM
Riverbank Acoustical Laboratories	100227-0	Geneva	IL	Acoustics
Rockford Bolt & Steel Co.	200255-0	Rockford	IL	Fasteners
S. Himmelstein and Company	200487-0	Hoffman Estates	IL	Calibration
STAT Analysis Corporation	101202-0	Chicago	IL	PLM
STAT Analysis Corporation	101202-0	Chicago	IL	TEM
STERIS-Isomedix Services	200235-0	Morton Grove	IL	Calibration
STS Consultants, Ltd.	100191-0	Vernon Hills	IL	Construction
TEM, Incorporated	101130-0	Glen Ellyn	IL	PLM
TEM, Incorporated	101130-0	Glen Ellyn	IL	TEM
The Dow Chemical Company- NA System House-Joliet	100210-0	Joliet	IL	Thermal Insl.
Underwriters Laboratories Inc.	100414-0	Northbrook	IL	EC&T
Underwriters Laboratories Inc.	100414-0	Northbrook	IL	Thermal Insl.
United Analytical Services, Inc.	101732-0	Downers Grove	IL	PLM
United Analytical Services, Inc.	101732-0	Downers Grove	IL	TEM
United Steel and Fasteners Inc.	200341-0	Itasca	IL	Fasteners
USG Research - Construction Systems Laboratory	200132-0	Libertyville	IL	Acoustics
IN				
ACM Environmental, Inc.	101977-0	South Bend	IN	PLM
Aearo Company, E·A·RCAL Acoustical Laboratory	100374-0	Indianapolis	IN	Acoustics
C.I.M.D. Engr. Dev. Lab	200522-0	Fort Wayne	IN	Electric Motors
EMSL Analytical, Inc.	200188-0	Indianapolis	IN	PLM
EMSL Analytical, Inc.	200188-0	Indianapolis	IN	TEM
ESG Laboratories	102029-0	Indianapolis	IN	PLM
Fuji Component Parts USA, Inc.	200180-0	Indianapolis	IN	Fasteners
Indiana Division of Weights and Measures	200421-0	Indianapolis	IN	Calibration
Knauf Fiber Glass Research Laboratory	100248-0	Shelbyville	IN	Thermal Insl.
Micro Air, Inc.	101221-0	Indianapolis	IN	PLM
Pyromation Inc. Metrology Laboratory	200502-0	Fort Wayne	IN	Calibration
Raytheon Technical Services Co. EMI Laboratory	200317-0	Indianapolis	IN	EC&T
Verizon Logistics, Electronic Repair Services	200352-0	Fort Wayne	IN	Calibration
KS				
Asbestos Consulting & Testing (ACT)	101649-0	Lenexa	KS	PLM
MAC Fasteners, Inc.	200141-0	Ottawa	KS	Fasteners
Philips Lighting Corporate Calibration & Standards Laboratory	100399-0	Salina	KS	Lighting
Rogers Labs, Inc.	200087-0	Louisburg	KS	EC&T
KY				
GE Owensboro Test Laboratory	200305-0	Owensboro	KY	Electric Motors
Intertek Testing Services NA Inc.	100274-0	Lexington	KY	EC&T
McCall and Spero Environmental, Inc.	101895-0	Louisville	KY	PLM
McCall and Spero Environmental, Inc.	101895-0	Louisville	KY	TEM

LABORATORY NAME	NVLAP LAB CODE	CITY	STATE/ COUNTRY	FIELD
LA				
CA Laboratories, L.L.C.	200452-0	Baton Rouge	LA	PLM
CA Laboratories, L.L.C.	200452-0	Baton Rouge	LA	TEM
Chrisope Technologies, A Division of Remel	200388-0	Lake Charles	LA	PPT
EMSL Analytical, Inc.	200375-0	Baton Rouge	LA	PLM
EMSL Analytical, Inc.	200375-0	Baton Rouge	LA	TEM
Entergy Operations, Inc.	100535-0	Killona	LA	Dosimetry
Fort Polk Environmental Laboratory	200523-0	Fort Polk	LA	PLM
Louisiana Department of Environmental Quality Microanalytical Lab	102000-0	Baton Rouge	LA	PLM
MA				
Chomerics Test Services (CTS)	100296-0	Woburn	MA	EC&T
Compaq Regulatory Compliance Engineering - East	100413-0	Marlboro	MA	EC&T
Covino Environmental Associates, Inc.	101781-0	Woburn	MA	PLM
David L. Ellis Co., Incorporated	200127-0	Acton	MA	Calibration
Duke Engineering and Services Environmental Laboratory	100524-0	Westborough	MA	Dosimetry
EMC Corporation	100339-0	Westboro	MA	EC&T
Hygienetics Laboratory Services	101147-0	Boston	MA	PLM
Hygienetics Laboratory Services	101147-0	Boston	MA	TEM
Instron Field Calibration Laboratory	200301-0	Canton	MA	Calibration
Instron Force Calibration Laboratory	105023-0	Canton	MA	Calibration
Motorola Test Lab Services	200005-0	Mansfield	MA	EC&T
National Technical Systems	100347-0	Boxborough	MA	EC&T
Netzsch Instruments, Inc.	100113-0	Bedford	MA	Thermal Insl.
Osram Sylvania, Applications & Measurements Laboratory	100403-0	Beverly	MA	Lighting
ProScience Analytical Services, Inc.	200090-0	Woburn	MA	PLM
ProScience Analytical Services, Inc.	200090-0	Woburn	MA	TEM
Quest Engineering Solutions, Inc.	200036-0	N. Billerica	MA	EC&T
SCILAB BOSTON, Inc.	102079-0	East Weymouth	MA	PLM
SCILAB BOSTON, Inc.	102079-0	East Weymouth	MA	TEM
Test Site Services, Inc.	100419-0	Marlboro	MA	EC&T
W.R. Grace & Co.	200258-0	Cambridge	MA	Construction
MD				
AMA Analytical Services, Inc.	101143-0	Lanham	MD	PLM
AMA Analytical Services, Inc.	101143-0	Lanham	MD	TEM
Arca Systems SEAL Common Criteria Testing Laboratory	200429-0	Columbia	MD	Common
Calvert Cliffs Nuclear Power Plant, Inc.	100501-0	Lusby	MD	Dosimetry
CDRH X-Ray Calibration Laboratory	105018-0	Rockville	MD	Calibration
COACT Inc. CAFE Laboratory	200416-0	Columbia	MD	Common
COACT Inc. CAFE Laboratory	200416-0	Columbia	MD	Cryptographic
Composite Panel Association (CPA)	100418-0	Gaithersburg	MD	Wood Prod.
Computer Sciences Corporation	200426-0	Annapolis Junction	MD	Common
DHMH-Air Quality Laboratory	101523-0	Baltimore	MD	PLM
EMSL Analytical, Inc.	200293-0	Beltsville	MD	PLM
EMSL Analytical, Inc.	200293-0	Beltsville	MD	TEM
MET Laboratories, Inc.	100273-0	Baltimore	MD	EC&T

LABORATORY NAME	NVLAP LAB CODE	CITY	STATE/ COUNTRY	FIELD
NAHB Research Center, Inc.	100104-0	Upper Marlboro	MD	Commercial
NAHB Research Center, Inc.	100104-0	Upper Marlboro	MD	Thermal Insl.
Naval Dosimetry Center	100504-0	Bethesda	MD	Dosimetry
NAWCAD 5.1.7.4. EMI Lab	100408-0	Patuxent River	MD	EC&T
PCTEST Engineering Laboratory, Inc.	100431-0	Columbia	MD	EC&T
SAIC Accredited Lab Center for Evaluation & Testing (SALCET)	200427-0	Columbia	MD	Common
U.S. Army Center for Health Promotion and Preventive Medicine	200044-0	Aberdeen Proving Ground	MD	PLM
Washington Laboratories, Ltd.	200066-0	Gaithersburg	MD	EC&T
Windermere Info. Tech. Sys. Military/Commercial Compliance Lab.	200084-0	Annapolis	MD	EC&T
ME				
Maine Metrology Department of Agriculture	200414-0	Augusta	ME	Calibration
MI				
AHD	200129-0	Dowagiac	MI	EC&T
Apex Research, Inc.	102118-0	Whitmore Lake	MI	PLM
Detroit Edison, Fermi 2 Dosimetry Laboratory	100529-0	Newport	MI	Dosimetry
Dexter Fastener Technologies, Inc.	200144-0	Dexter	MI	Fasteners
Dow Chemical N. America Foam Products Research, Prod. Perf. Lab.	100103-0	Midland	MI	Thermal Insl.
Eaton Corporation Innovation Center	200182-0	Southfield	MI	Calibration
Eaton E3 Laboratory	100382-0	Southfield	MI	EC&T
Electronic Automation	200410-0	Grand Rapids	MI	Calibration
EMSL Analytical, Inc.	101048-4	Ann Arbor	MI	PLM
EMSL Analytical, Inc.	101048-4	Ann Arbor	MI	TEM
Fibertec, Inc.	101510-0	Holt	MI	PLM
MacLean Maynard Laboratory Services	200451-0	Chesterfield Township	MI	Fasteners
Michigan Dept. of Agriculture, E.C. Heffron Metrology Laboratory	200408-0	Williamston	MI	Calibration
Wolverine Plating Corp.	200230-0	Roseville	MI	Fasteners
Wonder Makers Environmental Inc.	102065-0	Kalamazoo	MI	PLM
MN				
3M Product Safety EMC Laboratory	200033-0	St. Paul	MN	EC&T
Braun Intertec Corporation	101234-0	Minneapolis	MN	PLM
Braun Intertec Corporation	101234-0	Minneapolis	MN	TEM
EMSL Analytical, Inc.	200019-0	Minneapolis	MN	PLM
EMSL Analytical, Inc.	200019-0	Minneapolis	MN	TEM
IBM Rochester EMC Lab	200091-0	Rochester	MN	EC&T
Institute for Environmental Assessment	101249-0	Brooklyn Park	MN	PLM
Intertek Testing Services NA, Inc.	200049-0	Oakdale	MN	EC&T
Legend Technical Services, Inc.	102081-0	St. Paul	MN	PLM
Minnesota Metrology Laboratory	105003-0	St. Paul	MN	Calibration
Nova Consulting Group, Inc.	101545-0	Chaska	MN	PLM
Orfield Laboratories, Inc.	200248-0	Minneapolis	MN	Acoustics
Stork-Twin City Testing Corporation	200046-0	St. Paul	MN	Acoustics
TUV Product Service, Inc.- A Division of TUV America Inc.	100271-0	New Brighton	MN	EC&T
TUV Telecom Services, Inc.	200039-0	St. Paul	MN	EC&T

(See 'How To Use This Directory' on page 7.)

LABORATORY NAME	NVLAP LAB CODE	CITY	STATE/ COUNTRY	FIELD
MO				
AmerenUE, Callaway Plant	100502-0	Fulton	MO	Dosimetry
Boeing - St. Louis Electromagnetic Compatibility Laboratory	200382-0	St. Louis	MO	EC&T
EnviroHealth Technologies, Inc.	200374-0	St. Louis	MO	PLM
Environmental Health Laboratories	101506-0	Clayton	MO	PLM
Honeywell FM&T Metrology	200108-0	Kansas City	MO	Calibration
Kingston Environmental Laboratory	200041-0	Lee's Summit	MO	PLM
Larron Laboratory	101415-0	Cape Girardeau	MO	PLM
Mallinckrodt, Inc.	100503-0	Maryland Heights	MO	Dosimetry
Microscopic Analysis, Inc.	101037-0	St. Louis	MO	PLM
Missouri Department of Transportation, Chemical Laboratory	200544-0	Jefferson City	MO	PLM
MS				
Daybrite Lighting (Genlyte Thomas Group) Photometric Laboratory	200016-0	Tupelo	MS	Lighting
MT				
Northern Analytical Laboratories, Inc.	101292-0	Billings	MT	PLM
NC				
Advanced Energy, Industrial Energy Laboratory	200081-0	Raleigh	NC	Electric Motors
Asbestos Analysis and Information Service, Inc.	101261-0	Four Oaks	NC	PLM
Carolina Environmental, Inc.	101768-0	Cary	NC	PLM
Carolina Power & Light Company, Harris Energy & Enviro. Center	100517-0	New Hill	NC	Dosimetry
Duke Power Company Dosimetry Laboratory	100505-0	Charlotte	NC	Dosimetry
EMSL Analytical, Inc.	102104-0	Greensboro	NC	PLM
EMSL Analytical, Inc.	102104-0	Greensboro	NC	TEM
Flextronics Compliance Laboratories	200094-0	Youngsville	NC	EC&T
IBM RTP PSG EMC Test Labs	200200-0	Research Triangle Park	NC	EC&T
NSI Solutions, Inc.	200440-0	Raleigh	NC	PPT
S&ME, Inc.	102075-0	Charlotte	NC	PLM
Troxler Radiation Monitoring Svc. a div. of Troxler Elect. Labs	100559-0	Research Triangle Park	NC	Dosimetry
Underwriters Laboratories, Inc.	200246-0	Research Triangle Park	NC	EC&T
NH				
BAE Systems	200425-0	Nashua	NH	EC&T
Enterasys Networks Inc.	200121-0	Nashua	NH	EC&T
Retlif Testing Laboratories	100267-1	Goffstown	NH	EC&T
The Scott Lawson Group, Ltd.	101228-0	Concord	NH	PLM
NJ				
Advanced Compliance Laboratory	200101-0	Hillsborough	NJ	EC&T
Aerospace NYLOK - a subsidiary of the NYLOK Fastener Corporation	200271-0	Hawthorne	NJ	Fasteners
Dwight D.I.C., Inc.	200405-0	Lyndhurst	NJ	Calibration
EAI, Inc.	102114-0	Jersey City	NJ	PLM

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LABORATORY NAME	NVLAP LAB CODE	CITY	STATE/ COUNTRY	FIELD
EMSL Analytical Inc. Mobile Laboratory	200481-0	Westmont	NJ	PLM
EMSL Analytical Inc. Mobile Laboratory	200481-0	Westmont	NJ	TEM
EMSL Analytical, Inc.	101048-0	Westmont	NJ	PLM
EMSL Analytical, Inc.	101048-0	Westmont	NJ	TEM
EMSL Analytical, Inc.	101048-2	Piscataway	NJ	PLM
EMSL Analytical, Inc.	101048-2	Piscataway	NJ	TEM
Henry Troemner, LLC	105013-0	Thorofare	NJ	Calibration
Hillmann Environmental Group, L.L.C.	101421-0	Union	NJ	PLM
International Asbestos Testing Laboratory	101165-0	Mt. Laurel	NJ	PLM
International Asbestos Testing Laboratory	101165-0	Mt. Laurel	NJ	TEM
Lucent Technologies, Global Product Compliance Lab	100275-0	Holmdel	NJ	EC&T
NAWC-Aircraft Div. Lakehurst Electromagnetic Interference Lab.	200222-0	Lakehurst	NJ	EC&T
Omega Environmental Services	101289-0	Hackensack	NJ	PLM
PMK Group, Inc.	101301-0	Cranford	NJ	PLM
Protocol Analytical Supplies, Inc.	200395-0	Middlesex	NJ	PPT
Spex Certiprep Inc.	200392-0	Metuchen	NJ	PPT
NM				
Assaigai Analytical Laboratories, Inc.	101457-0	Albuquerque	NM	PLM
Sandia National Laboratories	105002-0	Albuquerque	NM	Calibration
NV				
Asbestos TEM Laboratories, Inc.	200104-0	Sparks	NV	PLM
Converse Consultants	102091-0	Reno	NV	PLM
NY				
Adirondack Environmental Services Inc.	200552-0	Albany	NY	PLM
Adirondack Environmental Services Inc.	200552-0	Albany	NY	TEM
Advance Testing Company Inc.	200514-0	Campbell Hall	NY	Construction
Airtek Environmental Corp.	102011-0	New York	NY	PLM
ALAC	200323-0	New York	NY	PLM
Ambient Group, Inc.	101618-0	Glen Cove	NY	PLM
ATC Associates Inc.	101187-0	New York	NY	PLM
ATC Associates Inc.	101187-0	New York	NY	TEM
Athenica Environmental Services, Inc.	101958-0	Long Island City	NY	PLM
Athenica Environmental Services, Inc.	101958-0	Long Island City	NY	TEM
BAE Systems Controls, Inc. EMI Laboratory	200142-0	Johnson City	NY	EC&T
Dayton T. Brown, Inc.	200422-0	Bohemia	NY	EC&T
Diviersified T.E.S.T. Technologies, Inc.	200340-0	Groton	NY	EC&T
DL Labs, Inc.	100252-0	New York	NY	Commercial
Eastern Analytical Services, Inc.	101646-0	Elmsford	NY	PLM
Eastern Analytical Services, Inc.	101646-0	Elmsford	NY	TEM
Eastman Kodak Co.- EMC Facility	200313-0	Rochester	NY	EC&T
EMSL Analytical, Inc.	101048-9	New York	NY	PLM
EMSL Analytical, Inc.	101048-9	New York	NY	TEM
EMSL Analytical, Inc.	101048-10	Carle Place	NY	PLM
EMSL Analytical, Inc.	101048-10	Carle Place	NY	TEM
EMSL Analytical, Inc.	200056-0	Depew	NY	PLM
EMSL Analytical, Inc.	200056-0	Depew	NY	TEM
EMSL Analytical, Inc.	200333-0	Elmsford	NY	PLM
EMSL Analytical, Inc.	200333-0	Elmsford	NY	TEM

LABORATORY NAME	NVLAP LAB CODE	CITY	STATE/ COUNTRY	FIELD
Entergy Nuclear Northeast	100538-0	Buchanan	NY	Dosimetry
Enviro-Probe, Inc.	101222-0	Bronx	NY	PLM
Enviroscience Consultants, Inc.	200531-0	Ronkonkoma	NY	TEM
Fairway Testing Company, Inc.	100340-0	Stony Point	NY	Construction
Galson Laboratories	101375-0	East Syracuse	NY	PLM
GE Industrial Systems	200029-0	Rome	NY	Calibration
Ginna Nuclear Station	100514-0	Ontario	NY	Dosimetry
IBM Endicott EMC Lab	200418-0	Endicott	NY	EC&T
IBM Hudson Valley Acoustics Laboratory	100323-0	Poughkeepsie	NY	Acoustics
IBM Poughkeepsie EMC Laboratory	200435-0	Poughkeepsie	NY	EC&T
IBM Shock and Vibration Laboratory	200503-0	Poughkeepsie	NY	Commercial
Industrial Acoustics Company, Inc., Aero-Acoustics Laboratory	100404-0	Bronx	NY	Acoustics
Intertek Testing Services NA Inc.	100402-0	Cortland	NY	Lighting
JLC Environmental Consultants, Inc.	101953-0	New York	NY	PLM
KAM Consultants	102047-0	Long Island City	NY	PLM
KAM Consultants	102047-0	Long Island City	NY	TEM
Lighting Research Center Lighting Products	200480-0	Troy	NY	Lighting
NGC Testing Services, National Gypsum Research Center	200291-0	Buffalo	NY	Acoustics
NY Environmental & Analytical Labs, Inc.	101967-0	Port Washington	NY	PLM
NYS DOH Environmental Laboratory Approval Program	200387-0	Albany	NY	PPT
O'Brien & Gere Laboratories, Inc.	101343-0	Syracuse	NY	PLM
Paradigm Environmental Services, Inc.	200530-0	Rochester	NY	PLM
Paradigm Environmental Services, Inc.	200530-0	Rochester	NY	TEM
Retlif Testing Laboratories	100267-0	Ronkonkoma	NY	EC&T
Scientific Laboratories, Inc.	101904-1	New York	NY	PLM
Scientific Laboratories, Inc.	101904-1	New York	NY	TEM
Scientific Laboratories, Inc.	200546-0	New York	NY	PLM
Scientific Laboratories, Inc.	200546-0	New York	NY	TEM
Taylor Environmental Group, Inc.	102101-0	Floral Park	NY	PLM
Technical Calibration Labs, Inc.	200459-0	Monroe	NY	Calibration
Testing Mechanics Corp.	102001-0	Seaford	NY	PLM
Testwell Laboratories, Inc./Testwell Industries, Inc.	200083-0	Ossining	NY	Construction
Testwell Laboratories, Inc./Testwell Industries, Inc.	200083-0	Ossining	NY	PLM
Testwell Laboratories, Inc./Testwell Industries, Inc.	200083-0	Ossining	NY	TEM
Underwriters Laboratories, Inc.	100255-0	Melville	NY	EC&T
Underwriters Laboratories, Inc.	100255-0	Melville	NY	Lighting
WKP Laboratories, Inc.	101950-0	New York City	NY	PLM

OH

LABORATORY NAME	NVLAP LAB CODE	CITY	STATE/ COUNTRY	FIELD
American Electric Power (AEP), Dolan Chemical Laboratory	102102-0	Groveport	OH	PLM
Analytical Products Group, Inc.	200384-0	Belpre	OH	PPT
DataChem Laboratories	101917-0	Cincinnati	OH	PLM
DataChem Laboratories	101917-0	Cincinnati	OH	TEM
Deka Scale, Inc., Scales and Balances	200400-0	Toledo	OH	Calibration
EA Group	101019-0	Mentor	OH	PLM
Fluor Fernald, Inc., Analytical Laboratory	102010-0	Cincinnati	OH	PLM

LABORATORY NAME	NVLAP LAB CODE	CITY	STATE/ COUNTRY	FIELD
Services				
GE Lighting- Product Testing	100398-0	Cleveland	OH	Lighting
Gelles Laboratories, Division, CC Technologies	101170-0	Dublin	OH	PLM
Gelles Laboratories, Division, CC Technologies	101170-0	Dublin	OH	TEM
GeoCorp Industrial Controls, Inc.	200496-0	Huron	OH	Calibration
Integrex Testing Systems -Acoustic & Thermal Testing Laboratories	100109-0	Granville	OH	Acoustics
Integrex Testing Systems -Acoustic & Thermal Testing Laboratories	100109-0	Granville	OH	Thermal Insl.
m.a.c. Paran Consulting Services, Inc.	102108-0	Amelia	OH	PLM
Marlin Manufacturing Corporation	200512-0	Cleveland	OH	Calibration
McGill AirFlow Corp. Airflow and Acoustical Testing Laboratory	200463-0	Westerville	OH	Acoustics
NASA John H. Glenn Research Center at Lewis Field	200130-0	Cleveland	OH	PLM
NOVA Machine Products	200202-0	Middleburg Heights	OH	Fasteners
Ohio E.M.A. Radiological Instrument Calibration Facility	200419-0	Columbus	OH	Calibration
TolTest, Inc.	101594-0	Toledo	OH	PLM
Tremco, Inc. - Roofing Division, An RPM Company	101188-0	Beachwood	OH	PLM
Webber Gage Division / L.S. Starrett Co.	200038-0	Cleveland	OH	Calibration

OK

LABORATORY NAME	NVLAP LAB CODE	CITY	STATE/ COUNTRY	FIELD
Air Quality Laboratories	101580-0	Oklahoma City	OK	PLM
Oklahoma Bureau of Standards	200396-0	Oklahoma City	OK	Calibration
QuanTEM Laboratories, LLC	101959-0	Oklahoma City	OK	PLM
QuanTEM Laboratories, LLC	101959-0	Oklahoma City	OK	TEM
SGS U.S. Testing Company, Inc.	100416-0	Tulsa	OK	Commercial
SGS U.S. Testing Company, Inc.	100416-0	Tulsa	OK	Thermal Insl.
TEC-AN, Inc.	200325-0	Oklahoma City	OK	PLM

OR

LABORATORY NAME	NVLAP LAB CODE	CITY	STATE/ COUNTRY	FIELD
InFocus Systems, Inc.	200152-0	Wilsonville	OR	EC&T
Northwest EMC, Inc.	200059-0	Hillsboro	OR	EC&T
Professional Service Industries, Inc., Pittsburgh Test. Lab. Div.	100430-0	Eugene	OR	Wood Prod.
Timberco, Inc.- dba TECO	100420-0	Eugene	OR	Wood Prod.
White Environmental Consultants, Inc.	200509-0	Tigard	OR	PLM
Willamette Industries, Inc. West Coast Development Lab	200045-0	Wilsonville	OR	Commercial

PA

LABORATORY NAME	NVLAP LAB CODE	CITY	STATE/ COUNTRY	FIELD
Accredited Environmental Technologies, Inc.	101051-0	Media	PA	PLM
AGX, Inc.	101578-0	Wexford	PA	PLM
American Testing Laboratories, Inc.	100146-0	Lancaster	PA	Construction
Architectural Testing Inc.	200361-0	York	PA	Acoustics
Armstrong Acoustic Labs, Armstrong World Ind., Inc. Innov. Center	100228-0	Lancaster	PA	Acoustics
Criterion Laboratories, Inc.	102046-0	Bensalem	PA	PLM
Dodge-Regupol, Inc. Laboratory	200030-0	Lancaster	PA	Commercial

LABORATORY NAME	NVLAP LAB CODE	CITY	STATE/ COUNTRY	FIELD
IIT Research Institute/R&B Operation	100280-0	West Conshohocken	PA	EC&T
Kevco Services, Inc.	101941-0	Butler	PA	PLM
Laird Group PLC	200076-0	Delaware Water Gap	PA	EC&T
Levecque Technical Center	100101-0	Blue Bell	PA	Thermal Insl.
Michael & Associates	100427-0	State College	PA	Acoustics
PA DEP Bureau of Laboratories	101323-0	Harrisburg	PA	PLM
PPL Susquehanna, LLC	100554-0	Allentown	PA	Dosimetry
PSC Analytical Services	101262-0	Reading	PA	PLM
PSI	101350-0	Pittsburgh	PA	PLM
PSI	101350-0	Pittsburgh	PA	TEM
Ram Industries Motor Test Laboratory	200542-0	Leesport	PA	Electric Motors
RJ Lee Group, Inc.	101208-0	Monroeville	PA	PLM
RJ Lee Group, Inc.	101208-0	Monroeville	PA	TEM
Volz Environmental Services, Inc.	101269-0	Pittsburgh	PA	PLM
PR				
AES International	200051-0	Santurce	PR	PLM
RI				
RI Analytical Laboratories, Inc.	101440-0	Warwick	RI	PLM
SNB Laboratory	200308-0	Cumberland	RI	Fasteners
SC				
Davis & Floyd, Inc.	101410-0	Greenwood	SC	PLM
TN				
A.O. Smith (Lexington) Engineering Laboratory	200053-0	Lexington	TN	Electric Motors
Leland-Powell Fasteners, Inc. Fastener Testing Laboratory	200171-0	Martin	TN	Fasteners
National Econ Corporation	200047-0	Memphis	TN	PLM
Oak Ridge Metrology Center	105000-0	Oak Ridge	TN	Calibration
Philips Testing Service	200409-0	Knoxville	TN	EC&T
R & D Services, Inc.	200265-0	Cookeville	TN	Thermal Insl.
Tennessee Valley Authority External Dosimetry Service	100516-0	Soddy-Daisy	TN	Dosimetry
TX				
A & B Environmental Services, Inc.	101793-0	Houston	TX	PLM
Acoustic Systems Acoustical Research Facility	100286-0	Austin	TX	Acoustics
Analytical Environmental Services	101735-0	Austin	TX	PLM
Atomic Energy Industrial Laboratory of the Southwest, Inc.	100556-0	Houston	TX	Dosimetry
CAM Environmental Services	200240-0	Pasadena	TX	PLM
Compaq Computer Corp. Emissions Control Lab	200058-0	Houston	TX	EC&T
Compaq Corporate Metrology	200154-0	Houston	TX	Calibration
Crisp Analytical Laboratory	200349-0	Carrollton	TX	PLM
Crisp Analytical Laboratory	200349-0	Carrollton	TX	TEM
Dell Regulatory Test Laboratories	200052-0	Round Rock	TX	Acoustics
Dell Regulatory Test Laboratories	200052-0	Round Rock	TX	EC&T
DH Analytical Services	102086-0	Stafford	TX	PLM

LABORATORY NAME	NVLAP LAB CODE	CITY	STATE/ COUNTRY	FIELD
EcoSystems Environmental, Inc.	101162-0	Carrollton	TX	PLM
EMSL Analytical, Inc.	102106-0	Houston	TX	PLM
EMSL Analytical, Inc.	102106-0	Houston	TX	TEM
EMSL Analytical, Inc.	200034-0	Dallas	TX	PLM
EMSL Analytical, Inc.	200034-0	Dallas	TX	TEM
Envirotest, Inc.	101595-0	Houston	TX	PLM
ERI Consulting Engineers, Inc.	101232-0	Tyler	TX	PLM
HIH Laboratory, Inc.	101233-0	Webster	TX	PLM
Houston Analytical Laboratory	200473-0	Houston	TX	PLM
IBM Austin EMC	200112-0	Austin	TX	EC&T
J3 Resources, Inc.	200525-0	Houston	TX	PLM
J3 Resources, Inc.	200525-0	Houston	TX	TEM
Loflin Environmental Services,Inc.	102044-0	Houston	TX	PLM
McKee Environmental Health, Inc.	101135-0	Friendswood	TX	PLM
Metroplex Metrology Lab, Inc.	200262-0	Fort Worth	TX	Calibration
Micro Air of Texas, Inc.	102008-0	Houston	TX	PLM
National Technical Systems	200245-0	Plano	TX	EC&T
Nemko Dallas, Inc.	100426-0	Lewisville	TX	EC&T
Omni Environmental, Inc.	102061-0	Austin	TX	PLM
PCI Industries Acoustical Testing Laboratories	200453-0	Fort Worth	TX	Acoustics
Professional Testing (EMI), Inc.	200062-0	Round Rock	TX	EC&T
Quest MicroAnalytics	200249-0	Dallas	TX	PLM
Ruska Calibration Laboratory	200491-0	Houston	TX	Calibration
South Texas Project Dosimetry Laboratory	100519-0	Wadsworth	TX	Dosimetry
Steve Moody Micro Services, Inc.	102056-0	Carrollton	TX	PLM
Steve Moody Micro Services, Inc.	102056-0	Carrollton	TX	TEM
Sun City Analytical, Inc.	101870-0	El Paso	TX	PLM
TDK RF Solutions Inc.	200430-0	Cedar Park	TX	EC&T
Toshiba/Houston Test Laboratory	200088-0	Houston	TX	Electric Motors
TUViT, IT Security Laboratory	200428-0	Austin	TX	Common
TXU Electric - Comanche Peak Steam Electric Station	100528-0	Glen Rose	TX	Dosimetry
US Air Force Center for Radiation Dosimetry	100548-0	Brooks AFB	TX	Dosimetry
Wayne Langston, Inc.	200021-0	League City	TX	EC&T

UT

LABORATORY NAME	NVLAP LAB CODE	CITY	STATE/ COUNTRY	FIELD
Communication Certification Laboratory	100272-0	Salt Lake City	UT	EC&T
Dixon Information Inc.	101012-0	South Salt Lake	UT	PLM
Hart Scientific Calibration Laboratory	200348-0	American Fork	UT	Calibration

VA

LABORATORY NAME	NVLAP LAB CODE	CITY	STATE/ COUNTRY	FIELD
American Medical Laboratories, Inc.	101136-0	Chantilly	VA	PLM
Analytics Corporation	101004-0	Richmond	VA	PLM
Applied Environmental, Inc.	101611-0	Reston	VA	PLM
Applied Laboratory Services, LLC	200515-0	Norfolk	VA	PLM
Atlan Laboratories	200492-0	McLean	VA	Cryptographic
Auditory Systems Laboratory, ISE Department, Virginia Tech	200479-0	Blacksburg	VA	Acoustics
Cygnacom Solutions, Inc. An Entrust Company	200002-0	McLean	VA	Common
Cygnacom Solutions, Inc. An Entrust Company	200002-0	McLean	VA	Cryptographic

LABORATORY NAME	NVLAP LAB CODE	CITY	STATE/ COUNTRY	FIELD
Environmental Hazards Services, L.L.C.	101882-0	Richmond	VA	PLM
Environmental Testing and Monitoring Services, Inc.	200131-0	Virginia Beach	VA	PLM
Holmes Environmental, Inc.	200467-0	Norfolk	VA	PLM
Hubbell Lighting Photometric Laboratory	200020-0	Christiansburg	VA	Lighting
Industrial Laboratory	102115-0	Portsmouth	VA	PLM
Newport News Shipbuilding Radiological Control Department	100561-0	Newport News	VA	Dosimetry
Philip Morris Standards and Calibration Laboratory	200359-0	Richmond	VA	Calibration
Proxtronics, Inc.	100573-0	Springfield	VA	Dosimetry
Rhein Tech Laboratories, Inc.	200061-0	Herndon	VA	EC&T
RJ Lee Group, Inc.	101208-3	Manassas	VA	PLM
RJ Lee Group, Inc.	101208-3	Manassas	VA	TEM
Schneider Laboratories, Inc.	101150-0	Richmond	VA	PLM
Scientific Laboratories, Inc.	101904-0	Midlothian	VA	PLM
Scientific Laboratories, Inc.	101904-0	Midlothian	VA	TEM
State of Virginia Metrology Lab	105007-0	Richmond	VA	Calibration
VT				
Microcheck, Inc.	200391-0	Northfield	VT	PPT
Vermont Fasteners Manufacturing	200254-0	Swanton	VT	Fasteners
WA				
APA - The Engineered Wood Association Research Center	100423-0	Tacoma	WA	Wood Prod.
Battelle - Pacific Northwest National Laboratory	200216-0	Richland	WA	Dosimetry
BCAG Fastener Quality Test Lab Everett Site	200292-0	Seattle	WA	Fasteners
Clayton Group Services	101106-0	Seattle	WA	PLM
Fluke Corporation Primary Standards Laboratory	105016-0	Everett	WA	Calibration
Key Tronic Corp.	200096-0	Spokane	WA	EC&T
Lab/Cor, Inc.	101920-0	Seattle	WA	TEM
Mountain Laboratories	101890-0	Spokane	WA	PLM
Naval Nuclear Propulsion Program Directorate, Washington, DC	100565-0	Bremerton	WA	Dosimetry
Northern Industrial Hygiene, Inc.	200511-0	Burien	WA	PLM
Nowicki & Associates, Inc.	200322-0	Federal Way	WA	PLM
NVL Laboratories, Inc.	102063-0	Seattle	WA	PLM
Pacific Northwest National Laboratory / Battelle	105020-0	Richland	WA	Calibration
Pacific Rim Environmental, Inc.	101631-0	Tukwila	WA	PLM
Puget Sound Naval Shipyard	101539-0	Bremerton	WA	PLM
Safe Environment of America, Inc.	102021-0	Auburn	WA	PLM
Strategic Weapons Fac. Pacific Cal. Lab. Oper. by Lockheed Martin	200406-0	Silverdale	WA	Calibration
Underwriters Laboratories Inc.	200214-0	Camas	WA	EC&T
United States Dosimetry Technology, Inc.	100571-0	Richland	WA	Dosimetry
Washington State Department of Agriculture Metrology Laboratory	200446-0	Tumwater	WA	Calibration

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LABORATORY NAME	NVLAP LAB CODE	CITY	STATE/ COUNTRY	FIELD
WI				
Bella Donna Labs Inc.	101868-0	Wauwatosa	WI	PLM
Hufcor Acoustical Laboratory	100239-0	Janesville	WI	Acoustics
Marathon Electric - Wausau Engineering Lab.	200134-0	Wausau	WI	Electric Motors
Micro Analytical, Inc.	101247-0	Milwaukee	WI	PLM
PFS Corporation	100421-0	Madison	WI	Wood Prod.
Regal Beloit Motor Technologies Group - Grafton Engineering Lab	200483-0	Grafton	WI	Electric Motors
Rice Lake Weighing Systems	105001-0	Rice Lake	WI	Calibration
Twin Ports Testing, Inc.	102083-0	Superior	WI	PLM
Unviersity of Wisconsin Radiation Calibration Laboratory	200470-0	Madison	WI	Dosimetry
Wisconsin Occupational Health Laboratory	101109-0	Madison	WI	PLM
WV				
Triad Environmental Consulting, Inc.	102073-0	Huntington	WV	PLM
WY				
Resource Technology Corporation (RTC)	200393-0	Laramie	WY	PPT
BRAZIL				
Belgo-Mineira Chemical Laboratory	200497-0	35.930-900 Joao Monlevade,	BRAZIL	Fasteners
CANADA				
Chatfield Technical Consulting Limited	101103-0	Mississauga Ontario	CANADA	PLM
CSA International	100322-0	Toronto Ontario	CANADA	Commercial
CSA International	100322-0	Toronto Ontario	CANADA	EC&T
DOMUS Information Technology Security Laboratory	200017-0	Ottawa Ontario	CANADA	Cryptographic
Electronics Test Centre	200282-0	Kanata, Ont.	CANADA	EC&T
EWA - Canada Ltd, IT Security Evaluation Facility	200556-0	Ottawa Ontario	CANADA	Cryptographic
Ingersoll Fasteners	200208-0	Ingersoll Ontario	CANADA	Fasteners
Ivaco Rolling Mills, Chemistry Laboratory	200143-0	L'Orignal Ontario	CANADA	Fasteners
LEX Scientific Inc.	101949-0	Guelph Ontario	CANADA	PLM
MDS Nordion Dosimetry Laboratory	200370-0	Kanata Ontario	CANADA	Calibration
Nortel Networks BVW Lab	200098-0	Belleville, Ontario	CANADA	EC&T
Pinchin Environmental Ltd.	101270-0	Mississauga Ontario	CANADA	PLM
Small IAC Test Laboratory	200287-0	Peterborough, ON	CANADA	Electric Motors
UltraTech Engineering Labs Inc.	200093-0	Oakville, Ontario	CANADA	EC&T
United Testing Sys. Canada, Ltd., Dynamic Testing Sys. Int. Inc.	200311-0	Concord Ontario	CANADA	Calibration
Vibro-Acoustics Laboratory	100424-0	Scarborough Ontario	CANADA	Acoustics
CHINA				
Audix Technology (Shanghai) Co., Ltd.	200371-0	Shanghai	CHINA	EC&T
AUDIX Technology (Shenzhen) Co., Ltd.	200372-0	Shenzhen, Guangdong	CHINA	EC&T
Shanghai Testing & Inspection Institute for Electrical Equipment	200407-0	Shanghai	CHINA	Electric Motors

LABORATORY NAME	NVLAP LAB CODE	CITY	STATE/ COUNTRY	FIELD
INDIA				
Sundram Fasteners Limited (Inhouse test laboratory)	200212-0	Chennai (Madras),Tamil	INDIA	Fasteners
Sundram Fasteners Limited Chemical Testing Laboratory	200256-0	Andhra Pradesh	INDIA	Fasteners
JAPAN				
A-Pex International Co., Ltd. Yamakita Laboratory	200441-0	Ashigarakami-gun	JAPAN	EC&T
A-Pex International Co., Ltd. Yokowa Laboratory	200109-0	Mie-ken	JAPAN	EC&T
Advantest Analysis Laboratory Ltd. EMC Center	200477-0	Gunma	JAPAN	EC&T
Akzo Nobel K.K. Kawasaki Technical Center	200300-0	Kawasaki	JAPAN	EC&T
Akzo Nobel K.K., Kakegawa EMC Test Site	100290-2	Shizuoka	JAPAN	EC&T
Akzo Nobel K.K., Kashima EMC Site	100290-0	Ibaraki	JAPAN	EC&T
Akzo Nobel K.K., Matsuda EMC Test Site	100290-4	Kanagawa	JAPAN	EC&T
Akzo Nobel K.K., Nagano EMC Test Site	100290-3	Nagano	JAPAN	EC&T
Akzo Nobel K.K., Tochigi EMC Test Site	100290-5	Tochigi	JAPAN	EC&T
Anritsu Customer Services Ltd. EMC Center	200550-0	Kanagawa-Prf.	JAPAN	EC&T
Benesol Corp.	200438-0	Sagamihara-shi, Kanagawa	JAPAN	EC&T
Canon D5 RF Anechoic Chamber; FCC Part 15; CISPR 22/AS/NZS 3548	200478-0	Ibaraki	JAPAN	EC&T
Chemitox EMC Research, Inc.	200120-0	Yamanashi-ken	JAPAN	EC&T
Cosmos Corporation	200151-0	Watarai-gun Mie	JAPAN	EC&T
Fuji Buhin Industries Inc.	200203-0	Ohta Gunma	JAPAN	Fasteners
Fujitsu Evaluation Engineering Laboratory	200281-0	Numazu, Shizuoka-Pref.	JAPAN	EC&T
Fujitsu General EMC Laboratory	200373-0	Kawasaki	JAPAN	EC&T
Hitachi Information Technology Co., Ltd.	200186-0	Kanagawa	JAPAN	EC&T
IBM Yamato EMC Engineering	200198-0	Yamato Kanagawa	JAPAN	EC&T
IPS Corporation	200012-0	Nagano	JAPAN	Calibration
IPS Corporation	200012-0	Nagano	JAPAN	EC&T
Japan Quality Assurance Org. Chubu Testing Center Shikatsu Branch	200190-0	Aichi	JAPAN	EC&T
Japan Quality Assurance Org. Safety & EMC Ctr. Tsuru EMC Branch	200192-0	Yamanashi	JAPAN	EC&T
Japan Quality Assurance Organization Kita-Kansai Testing Center	200191-0	Osaka	JAPAN	EC&T
Japan Quality Assurance Organization Safety & EMC Center	200189-0	Tokyo	JAPAN	EC&T
Kansai Electronic Industry Development Center, Ikoma Testing Lab.	200207-0	Ikoma Nara	JAPAN	EC&T
Kobelco Research Institute, Inc. Stock Company	200169-0	Kobe	JAPAN	Fasteners
Kyowa Kogyosyo Co., Ltd. Test Laboratory	200274-0	Komatsu City, Ishikawa	JAPAN	Fasteners
Kyushu Matsushita Electric Test Lab EMC Center	200364-0	Tosu-shi Saga-ken	JAPAN	EC&T
Matsushita EMC Center	100428-0	Sasayama, Hyogo	JAPAN	EC&T
Minebea Co., Ltd. Fujisawa Manufacturing Unit	200229-0	Fujisawa, Kanagawa	JAPAN	Fasteners
Minolta Co., Ltd. Toyokawa EMC Lab	200434-0	Toyokawa, Aichi	JAPAN	EC&T
Motor Test Lab of Toshiba Industrial	200529-0	Asahi-cho Mie-gun Mie-ken	JAPAN	Electric Motors

LABORATORY NAME	NVLAP LAB CODE	CITY	STATE/ COUNTRY	FIELD
Products Manufacturing Corp.				
Murata Mfg. Co., Ltd. Yokohama Technical Center EMM Office	200263-0	Kanagawa	JAPAN	EC&T
NEC Access Technica, Ltd. EMC Center	200488-0	Shizuoka-ken	JAPAN	EC&T
NEC Kofu, Ltd., EMC Center	200433-0	Yamanashi	JAPAN	EC&T
Niigata Fuji Xerox Manufacturing Co., Ltd. EMC Group	200490-0	Niigata	JAPAN	EC&T
O & K Company Limited, Osaka Test Center	200166-0	Osaka-Shi	JAPAN	Fasteners
Ohtama Co., Ltd. Yamanashi EMC Test Site	200175-0	Yamanashi	JAPAN	EC&T
Okawa Laboratory	200296-0	Naka-gun, Ibaraki-ken	JAPAN	Fasteners
Oki Engineering Co., Ltd. EMC Honjo Center	200519-0	Honjo-shi, Saitama	JAPAN	EC&T
Olympus EMC Laboratory	200472-0	Tokyo	JAPAN	EC&T
ORIX Rentec EMC Center; Electromagnetic Compatibility	200404-0	Aiko-Gun, Kanagawa	JAPAN	EC&T
PFU TECHNOCONSUL EMC Center	200259-0	Ishikawa-Ken	JAPAN	EC&T
Ricoh Company LTD. Ohmori Acoustics Test Site	200345-0	Tokyo	JAPAN	Acoustics
Ricoh Company, Ltd. Ohmori EMC Center	200163-0	Tokyo	JAPAN	EC&T
Seiko Epson Corporation	200157-0	Shiojiri-City Nagano	JAPAN	EC&T
Sharp Nara EMC Center, EMI Measurement for ITE	200457-0	Yamatokooriyama-shi Nara	JAPAN	EC&T
Sony EMCS Corp. Kohda TEC	200398-0	Nukata-gun Aichi	JAPAN	EC&T
Sony EMCS Corporation Minokamo TEC	200368-0	Gifu-Pref.	JAPAN	EC&T
Sony EMCS Saotama TEC EMC Test Laboratory	200456-0	Saitama-ken	JAPAN	EC&T
Sony Kisarazu EMC Test Laboratory	200432-0	Kisarazu Chiba	JAPAN	EC&T
Sony Nagano EMC Test Laboratory	200553-0	Nagano-ken	JAPAN	EC&T
Sumitomo Metals (Kokura), Ltd. Quality System Section	200215-0	Kitakyushu	JAPAN	Fasteners
Syonan Site Testing Laboratory as Conducted & Radiated Emissions	200482-0	Kanagawa	JAPAN	EC&T
TDK Corporation's 10m Anechoic Chamber & 3m Anechoic Chamber	200309-0	Ichikawa-shi, Chiba-ken	JAPAN	EC&T
TDK Corporation's Chikumagawa Open Site	200319-0	Saku-shi, Nagano-ken	JAPAN	EC&T
TEAC Corporation EMC Center	200362-0	Saitama-ken	JAPAN	EC&T
Tokin EMC Engineering Co., Ltd. Kawasaki Facility	200217-0	Kawasaki-city, Kanagawa	JAPAN	EC&T
Tokin EMC Engineering Co., Ltd. Nagoya Testing Laboratory	200219-0	Daian-cho, Inabe-gun, Mie	JAPAN	EC&T
Tokin EMC Engineering Co., Ltd. Osaka Testing Laboratory	200218-0	Sanda-city, Hyogo	JAPAN	EC&T
Tokin EMC Engineering Co., Ltd. Tsukuba Testing Laboratory	200221-0	Tsukuba-city, Ibaraki	JAPAN	EC&T
Toshiba Corp., Ome Operations	200107-0	Ome Tokyo	JAPAN	EC&T
Wave Corporation	200549-0	Tano-gun, Gunma	JAPAN	EC&T
Yamaha EMC Center	200455-0	Tenryu-shi, Shizuoka-ken	JAPAN	EC&T
Zacta Technology Corporation Yonezawa Testing Center	200306-0	Yonezawa-shi Yamagata	JAPAN	EC&T

(See 'How To Use This Directory' on page 7.)

LABORATORY NAME	NVLAP LAB CODE	CITY	STATE/ COUNTRY	FIELD
KOREA				
Digital EMC., Ltd.	200559-0	Kyunggi-Do	KOREA	EC&T
LG Electronics, Inc., Quality and Reliability Center	200040-0	Seoul	KOREA	EC&T
Samsung Electronics EMC Laboratory	200447-0	Suwon, Kyungki Do	KOREA	EC&T
SK Tech Co., LTD.	200220-0	Namyangju-si, Kyunggi-Do	KOREA	EC&T
MALAYSIA				
Teco Industry (Malaysia) SDN. BHD.	200476-0	Penang	MALAYSIA	Electric Motors
MEXICO				
Prottsa, S.A. de C.V.	200261-0	Mexico City	MEXICO	Fasteners
USEM de Mexico, S.A. de C.V.	200506-0	Apodaca NL	MEXICO	Electric Motors
TAIWAN				
Advance Data Technology Corporation	200102-0	Taipei Hsien	TAIWAN	EC&T
Advance Data Technology Corporation Hsin Chu EMC Laboratory	200376-0	Hsin Chu Hsien	TAIWAN	EC&T
Best Laboratory	200484-0	Taipei Hsein	TAIWAN	EC&T
Electronic Research & Service Organization/ITRI	200118-0	Chutung Hsinchu	TAIWAN	EC&T
Electronics Testing Center, Taiwan	200133-0	Taoyuan Hsien	TAIWAN	EC&T
Fong Prean Industrial Co., Ltd.	200288-0	Kaohsiung Hsien	TAIWAN	Fasteners
Global EMC Standard Tech. Corp.	200085-0	Taipei County	TAIWAN	EC&T
HomeTek Technology Inc.	200331-0	Taipei Shien	TAIWAN	EC&T
International Standards Laboratory	200234-0	Tao Yaun County	TAIWAN	EC&T
Interocean EMC Technology Corp.	200458-0	Taipei County	TAIWAN	EC&T
Inventec Corp. (Taoyuan) EMC Labs	200140-0	Taoyuan	TAIWAN	EC&T
Neutron Engineering Inc.	200145-0	Taipei	TAIWAN	EC&T
PEP Testing Laboratory	200097-0	Taipei Hsien	TAIWAN	EC&T
Philips Electronics Industries (TAIWAN) Ltd.	200137-0	Chungli, Taoyuan	TAIWAN	EC&T
Quietek Corporation	200347-0	Hsin-Chu Country	TAIWAN	EC&T
Quitek Corporation	200533-0	Lin Kou Shiang, Taipei	TAIWAN	EC&T
Radiation Laboratory, Taiwan Power Company	100562-0	Shihmen, Taipei	TAIWAN	Dosimetry
San Shing Hardware Works Co., Ltd. Test Laboratory	200158-0	Tainan	TAIWAN	Fasteners
Spectrum Research & Testing Laboratory, Inc.	200099-0	Chung-Li, Taoyuan	TAIWAN	EC&T
Sporton International, Inc.	200079-0	Taipei Hsien	TAIWAN	EC&T
Taiwan Tokin EMC Eng. Corp.	200077-0	Taipei	TAIWAN	EC&T
TECO Electric & Machinery Co., Ltd.	200378-0	Taoyuan	TAIWAN	Electric Motors
Training Research Co., Ltd.	200174-0	Taipei Hsien	TAIWAN	EC&T
UNITED KINGDOM				
Environmental and EMC Test Centre	200304-0	Kent	U. K.	EC&T
Thermo Spectronic	200462-0	Cambridge	U. K.	NTRMs

INDEX

D

LISTING OF TESTING LABORATORIES BY NVLAP LAB CODE

NVLAP LAB CODE 100101-0

Levecque Technical Center

1400 Union Meeting Road
P.O. Box 1100
Blue Bell, PA 19422-0761
Contact: Mr. Peter Herault
Phone: 610-341-6376
Fax: 610-341-6291
E-Mail: pete.c.herault@saint-gobain.com

Thermal Insulation Materials

Accreditation Valid Through: December 31, 2002

NVLAP Code	*Designation*
Canadian Standards (Specifications)	
01/W03	CAN/CGSB-51.10-92
01/W04	CAN/CGSB-51.11-92
01/WNOT	Note: Scope excludes CGSB 51-GP-52M; however, ASTM E96 & ASTM D828 are included where specified in the Canadian Standards (01/W02-W04)
Corrosiveness	
01/C02	16 CFR-Part 1209.5
Flammability	
01/F01	TAPPI T461-OM
01/F05	ASTM E136
01/F07	16 CFR-Part 1209.6
01/F08	16 CFR-Part 1209.7
Mass, Density, and Dimensional Stability	
01/D01	ASTM C136
01/D02	ASTM C167
01/D09	ASTM C303
01/D11	ASTM C356
01/D12	ASTM C411
01/D24	ASTM C739 (Sec. 12)
01/D26	16 CFR-Part 1209.4
01/D27	ASTM C739 (Sec. 8)
01/D31	MIL-I-22344D (Para. 4.6.3, 4.6.4.)
Related Material Properties	
01/V04	ASTM E96
01/V07	ASTM C1104/C1104M
Strength	
01/S01b	ASTM C165 (Proc. B)
01/S10	ASTM D828
01/S15	ASTM C421
01/S16	ASTM C1101/C1101M
Thermal Resistance	
01/T01	ASTM C177
01/T04	ASTM C236
01/T05	ASTM C335
01/T06	ASTM C518
01/T09	ASTM C653
01/T10	ASTM C687

NVLAP LAB CODE 100103-0

Dow Chemical N. America Foam Products Research, Prod. Perf. Lab.

1605 Joseph Drive
Midland, MI 48674
Contact: Ms. Linda Hess
Phone: 989-636-5069
Fax: 989-636-0194
E-Mail: lindahess@dow.com

Thermal Insulation Materials

Accreditation Valid Through: December 31, 2002

NVLAP Code	*Designation*
Mass, Density, and Dimensional Stability	
01/D04	ASTM C209 (Sec. 14, 2 hour)
01/D07	ASTM C272
01/D18	ASTM D1622
01/D19	ASTM D2126
01/D23	ASTM D2842
Related Material Properties	
01/V04	ASTM E96
Strength	
01/S02	ASTM C203
01/S06	ASTM C209 (Sec. 13)
01/S07	ASTM C273
01/S11	ASTM D1621 (Proc. A of ASTM Practice D618)
Thermal Resistance	
01/T06	ASTM C518

NVLAP LAB CODE 100104-0

NAHB Research Center, Inc.

400 Prince George's Boulevard
Upper Marlboro, MD 20774-8731
Contact: Mr. Robert L. Hill, P.E.
Phone: 301-430-6244
Fax: 301-430-6184
E-Mail: bhill@nahbrc.org
URL: http://www.nahbrc.org

Thermal Insulation Materials

Accreditation Valid Through: December 31, 2002

NVLAP Code	*Designation*
Mass, Density, and Dimensional Stability	
01/D02	ASTM C167
01/D13	ASTM C519
01/D27	ASTM C739 (Sec. 8)
Thermal Resistance	
01/T06	ASTM C518
01/T09	ASTM C653
01/T10	ASTM C687

Commercial Products Testing

Accreditation Valid Through: December 31, 2002

NVLAP
Code *Designation*

Paints and Related Coatings and Materials

09/A20	ASTM D2244

Plastics

15/A01	ASTM D256
15/A06	ASTM D638
15/A10	ASTM D790
15/A18	ASTM D2565
15/A19	ASTM D2583
15/A31	ASTM D570
15/A32	ASTM D792

Plumbing

19/M01	ICC/ANSI A117.1 (Sec. 609, 610)
19/M02	ASME/ANSI A112.19.7M (Sec. 5, 7)
19/M04	ASTM F446
19/M05	ASTM F462
19/P01	ANSI Z124.1 (Sec. 4, 5, 6)
19/P02	ANSI Z124.2 (Sec. 4, 5, 6)
19/P03	ANSI Z124.3 (Sec. 4, 5, 6)
19/P03a	ANSI/ICPA-SS-1 (Sec. 4, 5, 6)
19/P04	ANSI Z124.4 (Sec. 4, 5)
19/P05	ANSI Z124.4 (Sec. 2.11) per ASME A112.19.6M (Sec. 7.1)
19/P06	ANSI/IAPMO Z124.6 (Sec. 4, 5, 6)
19/P07	ANSI/IAPMO Z124.8 (Sec. 4, 5)
19/V01	ASME A112.19.2M (Sec. 8.1)
19/V02	ASME A112.19.2M (Sec. 8.2)
19/V03	ASME A112.19.2M (Sec. 8.3)
19/V04	ASME A112.19.2M (Sec. 8.7)
19/V06	ASME A112.19.2M (Sec. 8.5)
19/W01	ASME A112.19.6 (Sec. 7.1.2)
19/W02	ASME A112.19.6 (Sec. 7.1.3)
19/W03	ASME A112.19.6 (Sec. 7.1.4)
19/W04	ASME A112.19.6 (Sec. 7.1.5)
19/W05	ASME A112.19.6 (Sec. 7.1.6)
19/W06	ASME A112.19.6 (Sec. 7.1.7)
19/W07	ASME A112.19.6 (Sec. 7.1.8)
19/W08	ASME A112.19.6 (Sec. 7.1.9)

NVLAP LAB CODE 100108-0

TSi, Testing Services, Inc.

817 Showalter Avenue
P.O. Box 2041
Dalton, GA 30721
Contact: Mr. Erle W. Miles, Jr.
Phone: 706-226-1400
Fax: 706-226-6118
E-Mail: emiles@alltel.net
URL: http://www.tsiofdalton.com

Carpet and Carpet Cushion

Accreditation Valid Through: December 31, 2002

Tests Applicable to Carpet Cushion

NVLAP Code	*Designation*
03/U01a	ASTM D3574 (Sec. 8.2 & Test A)
03/U01b	ASTM D3676 (Secs. 10-12)
03/U02	ASTM D297
03/U03	ASTM D629 (Sec. 10)
03/U04	ASTM D629 (Secs. 13-22)
03/U05	ASTM D629 (Secs. 23-27)
03/U06	ASTM D1667 (Suffix B)
03/U07	ASTM D3574 (Test C)
03/U08	ASTM D3574 (Test D)
03/U09	ASTM D3574 (Test E)
03/U10	ASTM D3676 (Sec. 13)
03/U11	ASTM D3676 (Sec.14)
03/U12	ASTM D3676 (Sec.15)
03/U13	ASTM D3676 (Sec.16)

Tests Applicable to Carpet and Carpet Cushion

03/T01	AATCC 16 (Option E)
03/T02	ASTM D2646 (Secs. 16-24)
03/T02a	ASTM D2646 (Sec. 16)
03/T04	16 CFR Part 1630 (FF-1-70)

Tests Applicable to Carpets

03/G01	AATCC 20
03/G02	AATCC 20A
03/G03	AATCC 134
03/G04	AATCC 165
03/G05	ASTM D418 (Sec. 8)
03/G05a	ASTM D5848 (Sec. 8)
03/G06	ASTM D418 (Sec. 9)
03/G06a	ASTM D5848 (Sec. 9)
03/G07	ASTM D418 (Secs. 10-11)
03/G08	ASTM D418 (Sec. 13)
03/G08a	ASTM D5823
03/G09	ASTM D1335
03/G10	ASTM D3936
03/G11	ASTM D5252
03/G12	ASTM E648
03/G13	ASTM E662
03/G14	Fed Spec, DDD-C-0095A
03/G15	ASTM D6119
03/G16	CRI TM-101

NVLAP LAB CODE 100109-0

Integrex Testing Systems -Acoustic & Thermal Testing Laboratories

2790 Columbus Road, Route 16
Granville, OH 43023-1200
Contact: Mr. J. Michael Stair
Phone: 740-321-7053
Fax: 740-321-4080
E-Mail: mike.stair@owenscorning.com

Acoustical Testing Services

Accreditation Valid Through: December 31, 2002

NVLAP Code	*Designation*
08/P03	ASTM C423
08/P04	ASTM C522
08/P06	ASTM E90
08/P10	ANSI S12.31
08/P11	ISO 3744
08/P21	ISO 3745
08/P35	ASTM E1050
08/P46	ISO 3741

Thermal Insulation Materials

Accreditation Valid Through: December 31, 2002

NVLAP
Code *Designation*

Flammability

01/F02	ASTM E84
01/F05	ASTM E136
01/F07	16 CFR-Part 1209.6
01/F08	16 CFR-Part 1209.7

Mass, Density, and Dimensional Stability

01/D02	ASTM C167
01/D08	ASTM C302
01/D09	ASTM C303
01/D11	ASTM C356
01/D12	ASTM C411
01/D24	ASTM C739 (Sec. 12)
01/D27	ASTM C739 (Sec. 8)

Related Material Properties

01/V04	ASTM E96
01/V07	ASTM C1104/C1104M

Strength

01/S01a	ASTM C165 (Proc. A)
01/S02	ASTM C203

Thermal Resistance

01/T01	ASTM C177
01/T05	ASTM C335
01/T06	ASTM C518
01/T09	ASTM C653
01/T10	ASTM C687
01/T11	ASTM C976

NVLAP LAB CODE 100113-0

Netzsch Instruments, Inc.

25 Wiggins Avenue
Bedford, MA 01730-2323
Contact: Mr. Timothy Kunz
Phone: 781-275-3300 x245
Fax: 781-275-3705
E-Mail: tkunz@holometrix.com
URL: http://www.holometrix.com

Thermal Insulation Materials

Accreditation Valid Through: December 31, 2002

Related Material Properties

NVLAP Code	*Designation*
01/V04	ASTM E96

Thermal Resistance

NVLAP Code	*Designation*
01/T01	ASTM C177
01/T05	ASTM C335
01/T06	ASTM C518

NVLAP LAB CODE 100120-0

Commercial Testing Company

1215 South Hamilton Street
P.O. Box 985
Dalton, GA 30722-0985
Contact: Mr. Jonathan Jackson
Phone: 706-278-3935
Fax: 706-278-3936
E-Mail: jjackson@commercialtesting.com
URL: http://www.commercialtesting.com

Carpet and Carpet Cushion

Accreditation Valid Through: December 31, 2002

Tests Applicable to Carpet Cushion

NVLAP Code	*Designation*
03/U01a	ASTM D3574 (Sec. 8.2 & Test A)
03/U01b	ASTM D3676 (Secs. 10-12)
03/U02	ASTM D297
03/U06	ASTM D1667 (Suffix B)
03/U07	ASTM D3574 (Test C)
03/U08	ASTM D3574 (Test D)
03/U09	ASTM D3574 (Test E)
03/U10	ASTM D3676 (Sec. 13)
03/U11	ASTM D3676 (Sec.14)
03/U12	ASTM D3676 (Sec.15)
03/U13	ASTM D3676 (Sec.16)

Tests Applicable to Carpet and Carpet Cushion

NVLAP Code	*Designation*
03/T01	AATCC 16 (Option E)
03/T02	ASTM D2646 (Secs. 16-24)
03/T02a	ASTM D2646 (Sec. 16)
03/T03	ASTM E84
03/T04	16 CFR Part 1630 (FF-1-70)

Tests Applicable to Carpets

NVLAP Code	*Designation*
03/G01	AATCC 20
03/G02	AATCC 20A
03/G03	AATCC 134
03/G04	AATCC 165
03/G05	ASTM D418 (Sec. 8)
03/G05a	ASTM D5848 (Sec. 8)
03/G06	ASTM D418 (Sec. 9)
03/G06a	ASTM D5848 (Sec. 9)
03/G07	ASTM D418 (Secs. 10-11)
03/G08	ASTM D418 (Sec. 13)
03/G08a	ASTM D5823
03/G09	ASTM D1335
03/G10	ASTM D3936
03/G12	ASTM E648
03/G13	ASTM E662
03/G17	ISO 2551

NVLAP LAB CODE 100142-0

Geoscience Ltd.

6260-B Marindustry Drive
San Diego, CA 92121-2560
Contact: Dr. H. F. Poppendiek
Phone: 858-453-5483
Fax: 858-453-4694

URL: http://geoscienceltd.com

Thermal Insulation Materials

Accreditation Valid Through: December 31, 2002

NVLAP Code	*Designation*
Flammability	
01/F05	ASTM E136
Related Material Properties	
01/V04	ASTM E96
Thermal Resistance	
01/T01	ASTM C177
01/T04	ASTM C236

NVLAP LAB CODE 100146-0

American Testing Laboratories, Inc.

784 Flory Mill Road
P.O. Box 4014
Lancaster, PA 17604-4014
Contact: Mr. John S. Kassees
Phone: 717-569-0488
Fax: 717-569-3429

Construction Materials Testing

Accreditation Valid Through: March 31, 2002

NVLAP Code	*Designation*
Concrete	
02/A01	ASTM C39
02/A02	ASTM C617
02/A43	ASTM C1064
02/A45	ASTM C42
02/G01	ASTM C31/C172/C143/C138/C231
02/G02	ASTM C173
Soil and Rock	
02/L02	ASTM D422
02/L04	ASTM D698
02/L05	ASTM D854
02/L06	ASTM D1140
02/L08	ASTM D1557
02/L16	ASTM D2487
02/L17	ASTM D2488
02/L20	ASTM D4318
02/L23	ASTM D2922
02/L25	ASTM D3017

NVLAP LAB CODE 100156-0

Mohawk Industries, Inc.- Lyerly Plant

5081 Hwy. 114
Lyerly, GA 30730
Contact: Mr. Richard Turner
Phone: 706-895-3341 x6250
Fax: 706-895-2346
E-Mail: richard_turner@mohawkind.com

Carpet and Carpet Cushion

Accreditation Valid Through: December 31, 2002

NVLAP Code	*Designation*
Tests Applicable to Carpet Cushion	
03/U01b	ASTM D3676 (Secs. 10-12)
03/U06	ASTM D1667 (Suffix B)
03/U10	ASTM D3676 (Sec. 13)
03/U11	ASTM D3676 (Sec.14)
Tests Applicable to Carpet and Carpet Cushion	
03/T01	AATCC 16 (Option E)
03/T02	ASTM D2646 (Secs. 16-24)
03/T04	16 CFR Part 1630 (FF-1-70)
Tests Applicable to Carpets	
03/G03	AATCC 134
03/G04	AATCC 165
03/G05	ASTM D418 (Sec. 8)
03/G05a	ASTM D5848 (Sec. 8)
03/G06	ASTM D418 (Sec. 9)
03/G06a	ASTM D5848 (Sec. 9)
03/G07	ASTM D418 (Secs. 10-11)
03/G08	ASTM D418 (Sec. 13)
03/G08a	ASTM D5823
03/G09	ASTM D1335
03/G10	ASTM D3936
03/G11	ASTM D5252
03/G12	ASTM E648
03/G13	ASTM E662
03/G14	Fed Spec, DDD-C-0095A
03/G15	ASTM D6119
03/G16	CRI TM-101

NVLAP LAB CODE 100166-0

Independent Textile Testing Service, Inc.

1503 Murray Avenue, P.O. Box 1948
Dalton, GA 30722-1948
Contact: Mr. L. Kent Suddeth
Phone: 706-278-3013
Fax: 706-272-7057
E-Mail: ittslab@dalton.net
URL: ittslab.com

Carpet and Carpet Cushion

Accreditation Valid Through: December 31, 2002

NVLAP Code	*Designation*
Tests Applicable to Carpet Cushion	
03/U01a	ASTM D3574 (Sec. 8.2 & Test A)
03/U01b	ASTM D3676 (Secs. 10-12)
03/U02	ASTM D297
03/U03	ASTM D629 (Sec. 10)

03/U04	ASTM D629 (Secs. 13-22)
03/U05	ASTM D629 (Secs. 23-27)
03/U06	ASTM D1667 (Suffix B)
03/U07	ASTM D3574 (Test C)
03/U08	ASTM D3574 (Test D)
03/U09	ASTM D3574 (Test E)
03/U10	ASTM D3676 (Sec. 13)
03/U11	ASTM D3676 (Sec.14)
03/U12	ASTM D3676 (Sec.15)
03/U13	ASTM D3676 (Sec.16)

Tests Applicable to Carpet and Carpet Cushion

03/T01	AATCC 16 (Option E)
03/T02	ASTM D2646 (Secs. 16-24)
03/T02a	ASTM D2646 (Sec. 16)
03/T04	16 CFR Part 1630 (FF-1-70)

Tests Applicable to Carpets

03/G01	AATCC 20
03/G02	AATCC 20A
03/G03	AATCC 134
03/G04	AATCC 165
03/G05	ASTM D418 (Sec. 8)
03/G05a	ASTM D5848 (Sec. 8)
03/G06	ASTM D418 (Sec. 9)
03/G06a	ASTM D5848 (Sec. 9)
03/G07	ASTM D418 (Secs. 10-11)
03/G08	ASTM D418 (Sec. 13)
03/G08a	ASTM D5823
03/G09	ASTM D1335
03/G10	ASTM D3936
03/G11	ASTM D5252
03/G12	ASTM E648
03/G13	ASTM E662
03/G14	Fed Spec, DDD-C-0095A
03/G15	ASTM D6119
03/G16	CRI TM-101

NVLAP LAB CODE 100190-0

Beaulieu of America - Carpet Testing Lab

1502 Coronet Drive
P.O. Box 1248
Dalton, GA 30722-1248
Contact: Mr. E. Ronald Vinyard
Phone: 706-259-4511 x7367
Fax: 706-259-2211 x7893

Carpet and Carpet Cushion

Accreditation Valid Through: December 31, 2002

Tests Applicable to Carpet and Carpet Cushion

NVLAP Code	*Designation*
03/T01	AATCC 16 (Option E)
03/T02	ASTM D2646 (Secs. 16-24)
03/T02a	ASTM D2646 (Sec. 16)
03/T04	16 CFR Part 1630 (FF-1-70)

Tests Applicable to Carpets

03/G04	AATCC 165
03/G05	ASTM D418 (Sec. 8)
03/G05a	ASTM D5848 (Sec. 8)
03/G06	ASTM D418 (Sec. 9)
03/G07	ASTM D418 (Secs. 10-11)
03/G08	ASTM D418 (Sec. 13)
03/G08a	ASTM D5823
03/G09	ASTM D1335
03/G10	ASTM D3936

NVLAP LAB CODE 100191-0

STS Consultants, Ltd.

750 Corporate Woods Parkway
Vernon Hills, IL 60061
Contact: Mr. William P. Quinn
Phone: 847-279-2500
Fax: 847-279-2550
E-Mail: quinn@stsltd.com
URL: http://STSLTD.com

Construction Materials Testing

Accreditation Valid Through: December 31, 2002

Aggregates

NVLAP Code	*Designation*
02/A03	ASTM C29
02/A04	ASTM C40
02/A06	ASTM C88
02/A07	ASTM C117
02/A08	ASTM C123
02/A09	ASTM C127
02/A10	ASTM C128
02/A11	ASTM C131
02/A12	ASTM C136
02/A13	ASTM C142
02/A15	ASTM D75
02/A44	ASTM C566
02/A46	ASTM C535

Cement

02/A17	ASTM C109
02/A20	ASTM C151
02/A51	ASTM C780 (Annex A7)
02/A52	ASTM C1019

Concrete

02/A01	ASTM C39
02/A02	ASTM C617
02/A40	ASTM C78
02/A41	ASTM C192
02/A43	ASTM C1064
02/A45	ASTM C42
02/G01	ASTM C31/C172/C143/C138/C231
02/G02	ASTM C173

Geotextiles

02/L28	ASTM D4354
02/L33	ASTM D4632
02/L34	ASTM D3884
02/L35	ASTM D4886
02/L36	ASTM D4533
02/L37	ASTM D4884
02/L38	ASTM D792
02/L39	ASTM D4491
02/L40	ASTM D4716
02/L41	ASTM D4751
02/L42	ASTM D1777
02/L43	ASTM D4437

(See 'How To Use This Directory' on page 7.)

02/L45	ASTM D4595
02/L48	ASTM D5321
02/L49	ASTM D6243

Road and Paving Materials

02/M03	ASTM D140
02/M07	ASTM D546
02/M09	ASTM D1074
02/M11	ASTM D1188
02/M12	ASTM D1559
02/M19	ASTM D2172
02/M24	ASTM D2041
02/M25	ASTM D2726

Soil and Rock

02/L01	ASTM D4220
02/L02	ASTM D422
02/L03	ASTM D427
02/L04	ASTM D698
02/L05	ASTM D854
02/L06	ASTM D1140
02/L07	ASTM D1556
02/L08	ASTM D1557
02/L10	ASTM D1883
02/L11	ASTM D2166
02/L13	ASTM D2216
02/L14	ASTM D2217
02/L15	ASTM D2435
02/L16	ASTM D2487
02/L17	ASTM D2488
02/L18	ASTM D3080
02/L20	ASTM D4318
02/L21	ASTM D2434
02/L22	ASTM D2850
02/L23	ASTM D2922
02/L24	ASTM D2974
02/L25	ASTM D3017
02/L26	ASTM D4221
02/L29	Corps of Engineers - Manual EM-1110-2-1906, Appendix VII, Permeability of Fine Grained Soils Using a Triaxial Apparatus
02/L30	Corps of Engineers - Manual EM-1110-2-1906, Appendix X, Consolidated Undrained and Consolidated Drained Triaxial Test
02/L46	ASTM D5084
02/L50	ASTM D2664
02/L51	ASTM D2938
02/L52	ASTM D3148
02/L53	ASTM D3967
02/L54	ASTM D4543
02/L55	ASTM D5407
02/L56	ASTM D5607

Standard Practices

02/A38	ASTM E329
02/A39	ASTM C1077
02/L32	ASTM D3740
02/M26	ASTM D3666

NVLAP LAB CODE 100193-0

Shaw Industries, Inc., Central Laboratory Operations

South Glenwood Avenue
P.O. Box 2128
Dalton, GA 30722-2128
Contact: Mr. Jerry T. Wright, Jr.
Phone: 706-275-2205
Fax: 706-275-2221
E-Mail: jay.wright@shawinc.com

Carpet and Carpet Cushion

Accreditation Valid Through: June 30, 2002

NVLAP Code	*Designation*
Tests Applicable to Carpet and Carpet Cushion	
03/T01	AATCC 16 (Option E)
03/T02	ASTM D2646 (Secs. 16-24)
03/T02a	ASTM D2646 (Sec. 16)
03/T04	16 CFR Part 1630 (FF-1-70)
Tests Applicable to Carpets	
03/G04	AATCC 165
03/G05	ASTM D418 (Sec. 8)
03/G05a	ASTM D5848 (Sec. 8)
03/G06	ASTM D418 (Sec. 9)
03/G06a	ASTM D5848 (Sec. 9)
03/G07	ASTM D418 (Secs. 10-11)
03/G08	ASTM D418 (Sec. 13)
03/G08a	ASTM D5823
03/G09	ASTM D1335
03/G10	ASTM D3936
03/G11	ASTM D5252
03/G12	ASTM E648
03/G13	ASTM E662
03/G16	CRI TM-101

NVLAP LAB CODE 100210-0

The Dow Chemical Company- NA System House-Joliet

2050 North Broadway
Joliet, IL 60435-3187
Contact: Mr. Robert Braun
Phone: 815-727-1549
Fax: 815-774-6542
E-Mail: bgbraun@dow.com

Thermal Insulation Materials

Accreditation Valid Through: December 31, 2002

NVLAP Code	*Designation*
Mass, Density, and Dimensional Stability	
01/D15	ASTM D756 (Proc. A)
01/D16	ASTM D756 (Proc. B)
01/D17	ASTM D756 (Proc. E)
01/D18	ASTM D1622
01/D19	ASTM D2126
01/D23	ASTM D2842

Related Material Properties	
01/V04	ASTM E96
Strength	
01/S02	ASTM C203
01/S07	ASTM C273
01/S11	ASTM D1621 (Proc. A of ASTM Practice D618)
Thermal Resistance	
01/T06	ASTM C518

NVLAP LAB CODE 100227-0

Riverbank Acoustical Laboratories

1512 S. Batavia Avenue
Geneva, IL 60134-3300
Contact: Mr. David L. Moyer
Phone: 630-232-0104
Fax: 630-232-0138
E-Mail: dmoyer@iitri.org
URL: http://riverbank.iitri.org

Acoustical Testing Services

Accreditation Valid Through: March 31, 2002

NVLAP Code	*Designation*
08/P03	ASTM C423
08/P05	ASTM C523
08/P06	ASTM E90
08/P07	ASTM E492
08/P10	ANSI S12.31
08/P30	ASTM E1408
08/P39	ANSI S12.5
08/P44	ISO 354
08/P45	ISO 140, Part 3
08/P46	ISO 3741
08/P51	ISO 6926

NVLAP LAB CODE 100228-0

Armstrong Acoustic Labs, Armstrong World Ind., Inc. Innov. Center

P.O. Box 3511
2500 Columbia Avenue
Lancaster, PA 17604
Contact: Mr. Robert Alan Hallman
Phone: 717-396-6225
Fax: 717-396-5865
E-Mail: Robert_A_Hallman@armstrong.com

Acoustical Testing Services

Accreditation Valid Through: December 31, 2002

NVLAP Code	*Designation*
08/P03	ASTM C423
08/P07	ASTM E492
08/P28	ASTM E1375
08/P29	ASTM E1376
08/P33	ASTM E1111
08/P34	ASTM E1414
08/P44	ISO 354
08/P49	AMA-1-II-67
08/P50	ISO 140, Part 9

NVLAP LAB CODE 100239-0

Hufcor Acoustical Laboratory

1017 South Jackson Street
P.O. Box 591
Janesville, WI 53547-0591
Contact: Mr. Gary R. Zigler
Phone: 608-758-8217
Fax: 608-758-8253
E-Mail: gzigler@hufcor.com

Acoustical Testing Services

Accreditation Valid Through: September 30, 2002

NVLAP Code	*Designation*
08/P06	ASTM E90
08/P31	ASTM E336
08/P45	ISO 140, Part 3

NVLAP LAB CODE 100248-0

Knauf Fiber Glass Research Laboratory

240 Elizabeth Street
Shelbyville, IN 46176-1496
Contact: Mr. Timothy R. Jonas
Phone: 317-398-4434
Fax: 317-392-8181
E-Mail: trj1@knauffiberglass.com

Thermal Insulation Materials

Accreditation Valid Through: March 31, 2002

NVLAP Code	*Designation*
Corrosiveness	
01/C03	ASTM C665 (Sec. 13.8)
Mass, Density, and Dimensional Stability	
01/D02	ASTM C167
01/D08	ASTM C302
01/D09	ASTM C303
01/D11	ASTM C356
01/D12	ASTM C411
01/D13	ASTM C519
Related Material Properties	
01/V04	ASTM E96
Strength	
01/S01a	ASTM C165 (Proc. A)
01/S02	ASTM C203
Thermal Resistance	
01/T01	ASTM C177
01/T05	ASTM C335
01/T06	ASTM C518
01/T09	ASTM C653
01/T10	ASTM C687

NVLAP LAB CODE 100251-0

St. of California, Bur. of Home Furnishings & Thermal Insulation

3485 Orange Grove Avenue
North Highlands, CA 95660-5595
Contact: Dr. Stephen J. Fischer
Phone: 916-574-2060
Fax: 916-574-2449
E-Mail: steve_fischer@dca.ca.gov

Thermal Insulation Materials

Accreditation Valid Through: June 30, 2002

NVLAP Code	*Designation*
Corrosiveness	
01/C01	ASTM C739 (Sec. 9)
01/C02	16 CFR-Part 1209.5
Flammability	
01/F07	16 CFR-Part 1209.6
01/F08	16 CFR-Part 1209.7
01/F09	ASTM C739 (Sec. 10) by ASTM E970
01/F10	ASTM C739 (Sec. 14)
Mass, Density, and Dimensional Stability	
01/D02	ASTM C167
01/D08	ASTM C302
01/D09	ASTM C303
01/D26	16 CFR-Part 1209.4
01/D27	ASTM C739 (Sec. 8)
Thermal Resistance	
01/T01	ASTM C177
01/T05	ASTM C335
01/T10	ASTM C687

NVLAP LAB CODE 100252-0

DL Labs, Inc.

116 East 16th Street
New York, NY 10003-2112
Contact: Mr. Thomas J. Sliva
Phone: 212-777-4445
Fax: 212-505-8419
E-Mail: dllabs@aol.com
URL: http://www.dllabs.com

Commercial Products Testing

Accreditation Valid Through: December 31, 2002

NVLAP Code	*Designation*
Building Seals and Sealants	
13/O01	ASTM C510
13/O02a	ASTM C603
13/O02b	CAN2-19.0-M77, Meth. 3.1
13/O03	ASTM C639
13/O04a	ASTM C661
13/O04b	CAN2-19.0-M77, Meth. 8.1
13/O05a	ASTM C679
13/O05b	CAN2-19.0-M77, Meth. 2.1
13/O06	ASTM C681
13/O07	ASTM C711
13/O08	ASTM C712
13/O10	ASTM C718
13/O11a	ASTM C719
13/O11b	CAN2-19.0-M77, Meth. 14.4
13/O12	ASTM C731
13/O13	ASTM C732
13/O14	ASTM C733
13/O15	ASTM C734
13/O16	ASTM C736
13/O17	ASTM C741
13/O18	ASTM C742
13/O19a	ASTM C792
13/O19b	CAN2-19.0-M77, Meth. 5.1
13/O20	ASTM C793
13/O21	ASTM C794
13/O22	ASTM C910
13/O23	ASTM D2202
13/O24	ASTM D2203
13/O25	ASTM D2376
13/O26	ASTM D2377
13/O27	ASTM D2450
13/O28	ASTM D2451
13/O29	ASTM D2452
13/O30	ASTM D2453
13/O31	CAN2-19.0-M77, Meth. 7.1
13/O32	CAN2-19.0-M77, Meth. 7.3
13/O33	CAN2-19.0-M77, Meth. 8.2
13/O34	CAN2-19.0-M77, Meth. 11.1
13/O35	CAN2-19.0-M77, Meth. 14.7
13/O36	CAN2-19.0-M77, Meth. 19.2
13/O37	ASTM C920
13/O38	ASTM C1241
13/O39	ASTM C1183
13/O40	ASTM C1246
13/O41	CAN2-19.0-M77, Meth. 9.1
13/O42	CAN2-19.0-M77, Meth. 9.2
13/O43	CAN2-19.0-M77, Meth. 14.6
13/O44	CAN2-19.0-M77, Meth. 18.2
13/O45	ASTM C834
Paints and Related Coatings and Materials	
09/A01	ASTM D56
09/A02	ASTM D93 (Method A)
09/A03	ASTM D153
09/A04	ASTM D185
09/A05	ASTM D281
09/A07	ASTM D523
09/A08	ASTM D562
09/A09	ASTM D1005
09/A10	ASTM D1186
09/A11	ASTM D1200
09/A12	ASTM D1210
09/A13	ASTM D1212 (Method A)
09/A14	ASTM D1296
09/A15	ASTM D1310
09/A16	ASTM D1400
09/A17	ASTM D1475
09/A18	ASTM D1544
09/A19	ASTM D1729
09/A20	ASTM D2244
09/A21	ASTM D3278
09/A22	ASTM D3363
09/A23	ASTM D3793
09/A25	ASTM D4212

(See 'How To Use This Directory' on page 7.)

09/A26	ASTM E1347
09/A28	ASTM E313
09/A30	CGSB Method 1-GP-71, Meth. 10.1
09/A31	CGSB Method 1-GP-71, Meth. 12.8
09/A32	CGSB Method 1-GP-71, Meth. 45.1
09/A33	ASTM D2196
09/B02	ASTM D332
09/B03	ASTM D344
09/B04	ASTM D610
09/B05	ASTM D4214
09/B06	ASTM D660
09/B07	ASTM D661
09/B08	ASTM D662
09/B09	ASTM D711
09/B10	ASTM D714
09/B11	ASTM D772
09/B12	ASTM D868
09/B13a	ASTM D968
09/B13b	CGSB Method 1-GP-71 Meth. 104.1
09/B14	ASTM D869
09/B15	ASTM D870
09/B16	ASTM D913
09/B18	ASTM D969
09/B19a	ASTM D1308
09/B19b	CGSB Method 1-GP-71, Meth. 105.1
09/B19c	CGSB Method 1-GP-71, Meth. 106.1
09/B19d	CGSB Method 1-GP-71, Meth. 107.1
09/B19e	CGSB Method 1-GP-71, Meth. 110.1
09/B20	ASTM D1309
09/B23	ASTM D1640
09/B24	ASTM D522
09/B25	ASTM D2197
09/B26	ASTM D2243
09/B27	ASTM D2248
09/B29	ASTM D2486
09/B31	ASTM D2805
09/B32	ASTM D3273
09/B33	ASTM D3274
09/B34	ASTM D3450
09/B37	ASTM D4060
09/B38	ASTM D4062
09/B39	ASTM D4213
09/B41	Fed. Std. 141, Method 4494
09/B42	Fed. Std. 141, Method 4061
09/B43	ASTM D3359
09/B44	ASTM D4828
09/B45	CGSB Method 1-GP-71, Meth. 14.1
09/B46a	ASTM D1849
09/B46b	CGSB Method 1-GP-71, Meth. 30.3
09/B47	CGSB Method 1-GP-71, Meth. 32.1
09/B48	CGSB Method 1-GP-71, Meth. 37.3
09/B49	CGSB Method 1-GP-71, Meth. 112.2
09/B50	CGSB Method 1-GP-71, Meth. 114.1
09/B51	CGSB Method 1-GP-71, Meth. 116.2
09/B52	CGSB Method 1-GP-71, Meth. 123.2
09/B53	CGSB Method 1-GP-71, Meth. 125.1
09/B54	CGSB Method 1-GP-71, Meth. 127.1
09/B55	CGSB Method 1-GP-71, Meth. 130.1
09/B56	CGSB Method 1-GP-71, Meth. 131.2
09/B57	CGSB Method 1-GP-71, Meth. 132.1
09/B58	CGSB Method 1-GP-71, Meth. 134.1
09/B59	CGSB Method 1-GP-71, Meth. 135.1
09/B60	CGSB Method 1-GP-71, Meth. 142.1
09/B61	ASTM D412
09/B62	ASTM D1653
09/B63	ASTM D2134
09/B64	ASTM D2370
09/B65	ASTM D3258
09/B66	ASTM D3806
09/B67	ASTM D4400
09/B68	ASTM D4541
09/B69	ASTM D4707
09/B70	ASTM D4946
09/B71	ASTM D2794
09/C07	ASTM D1133
09/C09	ASTM D1259
09/C11	ASTM D1353
09/C12	ASTM D1364
09/C22	ASTM D1644
09/C26a	ASTM D2369
09/C26b	CGSB Method 1-GP-71, Meth.17.1
09/C26c	CGSB Method 1-GP-71, Meth. 19.1
09/C27	ASTM D2371
09/C28	ASTM D2697
09/C29	ASTM D2698
09/C30	ASTM D2832
09/C37	ASTM D3723
09/C39	ASTM D3960
09/C40	ASTM D4017
09/C42	CGSB Method 1-GP-71, Meth. 21.1
09/C43	CGSB Method 1-GP-71, Meth. 24.1
09/C44	ASTM D5095
09/C45	CGSB Method 1-GP-71, Meth. 69.3
09/D01	ASTM B117
09/D02	ASTM D609
09/D03	ASTM D822
09/D04	ASTM D823 (Limited to Practices B, C, D and E)
09/D05	ASTM D1006
09/D06	ASTM D1014
09/D07	ASTM D1654
09/D13	ASTM D3924
09/D16	ASTM G53
09/D17	ASTM D4446
09/D18	ASTM D5401

Plastics

15/A26	ASTM D2240

NVLAP LAB CODE 100255-0

Underwriters Laboratories, Inc.

1285 Walt Whitman Road
Melville, NY 11747-3081
Contact: Mr. Rick A. Titus
Phone: 847-272-8800
Fax: 847-509-6321
E-Mail: Rick.A.Titus@us.ul.com
URL: http://www.ul.com

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: September 30, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS14	CISPR 14-1 (March 30, 2000): Limits and methods of measurement of radio interference characteristics of household electrical appliances, portable tools and similar electrical apparatus - Part 1: Emissions
12/CIS14a	EN 55014-1 (1993) with Ammendments A1 (1997) & A2 (1999)
12/CIS14b	AS/NZS 1044 (1995)
12/CIS14c	CNS 13783-1
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548
Immunity Test Methods:	
12/I01	IEC 61000-4-2 (1995) and Amendment 1 (1998): Electrostatic Discharge Immunity Test
12/I02	IEC 61000-4-3 (1995) and Amendment 1 (1998): Radiated, Radio-Frequency Electromagnetic Field Immunity Test
12/I03	IEC 61000-4-4 (1995): Electrical Fast Transient/Burst Immunity Test
12/I04	IEC 61000-4-5 (1995): Surge Immunity Test
12/I05	IEC 61000-4-6 (1996): Immunity to Conducted Disturbances, Induced Radio-Frequency Fields
12/I06	IEC 61000-4-8 (1993): Power Frequency Magnetic Field Immunity Test
	IEC 61000-4-11 (1994): Voltage Dips, Short Interruptions and Voltage Variations Immunity Tests
Safety Test Methods:	
12/T41	ACA TS-001
12/T50	AS/NZS 3260
Telecommunications Test Methods:	
12/CS03	CS-03
12/T01	Terminal Equipment Network Protection Standards, FCC Method - 47 CFR Part 68 - Analog and Digital
12/T01a	68.302 (Par. c,d,e,f) Environmental simulation; 68.304 Leakage current limit.; 68.306 Hazardous voltage limit.; 68.308 Signal power limit.; 68.310 Longitudinal balance limit.; 68.312 On-hook impedance limit.; 68.314 Billing protection
12/T01b	68.316 Hearing Aid Compatibility: technical standards
12/T01c	68.302 Environmental simulation (Par. a,b)
12/T42	ACA TS-002
12/T44	ACA TS-004
12/T45	ACA TS-006
12/T46	ACA TS-008

Energy Efficient Lighting Products

Accreditation Valid Through: September 30, 2002

NVLAP Code	*Designation*
Color Measurements	
22/C01	IES LM-58
Electrical Measurements	
22/E01	IES LM-9
22/E02	IES LM-45
22/E04	IES LM-66
22/E05	ANSI-C78.375
Life Tests	
22/L01	IES LM-40
22/L04	IES LM-65
Photometric Measurements	
22/P01a	IES LM-9 (Total Flux)
22/P02a	IES LM-20 (Total Flux)
22/P03a	IES LM-45 (Total Flux)
22/P05a	IES LM-66 (Total Flux)

NVLAP LAB CODE 100256-0

Western Electro-Acoustic Lab., Inc.

25132 Rye Canyon Loop
Santa Clarita, CA 91355
Contact: Mr. Gary E. Mange
Phone: 661-775-3741
Fax: 661-775-3742
E-Mail: gmange@weal.com

Acoustical Testing Services

Accreditation Valid Through: March 31, 2002

NVLAP
Code *Designation*

08/P03	ASTM C423
08/P06	ASTM E90
08/P31	ASTM E336
08/P32	ASTM E1007
08/P45	ISO 140, Part 3

NVLAP LAB CODE 100267-0

Retlif Testing Laboratories

795 Marconi Avenue
Ronkonkoma, NY 11779-7231
Contact: Mr. Ross A. Hansen
Phone: 631-737-1500
Fax: 631-737-1497
E-Mail: rhansen@retlif.com
URL: http://www.retlif.com

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: September 30, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS14	CISPR 14-1 (March 30, 2000): Limits and methods of measurement of radio interference characteristics of household electrical appliances, portable tools and similar electrical apparatus - Part 1: Emissions
12/CIS14a	EN 55014-1 (1993) with Ammendments A1 (1997) & A2 (1999)
12/CIS14b	AS/NZS 1044 (1995)
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548
Immunity Test Methods:	
12/I01	IEC 61000-4-2 (1995) and Amendment 1 (1998): Electrostatic Discharge Immunity Test
12/I02	IEC 61000-4-3 (1995) and Amendment 1 (1998): Radiated, Radio-Frequency Electromagnetic Field Immunity Test
12/I03	IEC 61000-4-4 (1995): Electrical Fast Transient/Burst Immunity Test
12/I04	IEC 61000-4-5 (1995): Surge Immunity Test
12/I05	IEC 61000-4-6 (1996): Immunity to Conducted Disturbances, Induced Radio-Frequency Fields
12/I06	IEC 61000-4-8 (1993): Power Frequency Magnetic Field Immunity Test
12/I07	IEC 61000-4-11 (1994): Voltage Dips, Short Interruptions and Voltage Variations Immunity Tests
MIL-STD-462 : Conducted Emissions:	
12/A01	MIL-STD-462 Method CE01
12/A04	MIL-STD-462 Method CE02
12/A06	MIL-STD-462 Method CE03
12/A08	MIL-STD-462 Method CE04
12/A10	MIL-STD-462 Method CE06
12/A12	MIL-STD-462 Method CE07
12/A13	MIL-STD-462 Version D Method CE101
12/A14	MIL-STD-462 Version D Method CE102
12/A15	MIL-STD-462 Version D Method CE106
12/A16	MIL-STD-461 Version E Method CE101
12/A17	MIL-STD-461 Version E Method CE102
12/A18	MIL-STD-461 Version E Method CE106
MIL-STD-462 : Conducted Susceptibility:	
12/B01	MIL-STD-462 Method CS01
12/B02	MIL-STD-462 Method CS02
12/B04	MIL-STD-462 Method CS03/CS04/CS05/CS08
12/B05	MIL-STD-462 Method CS06
12/B06	MIL-STD-462 Method CS07
12/B07	MIL-STD-462 Method CS09
12/B08	MIL-STD-462 Method CS10
12/B09	MIL-STD-462 Method CS11
12/B10	MIL-STD-462 Method CS12
12/B11	MIL-STD-462 Method CS13
12/B12	MIL-STD-462 Version D Method CS101
12/B13	MIL-STD-462 Version D Method CS103
12/B14	MIL-STD-462 Version D Method CS104
12/B15	MIL-STD-462 Version D Method CS105
12/B16	MIL-STD-462 Version D Method CS109
12/B17	MIL-STD-462 Version D Method CS114
12/B18	MIL-STD-462 Version D Method CS115
12/B19	MIL-STD-462 Version D Method CS116
12/B20	MIL-STD-461 Version E Method CS101
12/B21	MIL-STD-461 Version E Method CS103
12/B22	MIL-STD-461 Version E Method CS104
12/B23	MIL-STD-461 Version E Method CS105
12/B24	MIL-STD-461 Version E Method CS109
12/B25	MIL-STD-461 Version E Method CS114
12/B26	MIL-STD-461 Version E Method CS115
12/B27	MIL-STD-461 Version E Method CS116
MIL-STD-462 : Radiated Emissions:	
12/D01	MIL-STD-462 Method RE01
12/D02	MIL-STD-462 Method RE02
12/D03	MIL-STD-462 Method RE03
12/D04	MIL-STD-462 Version D Method RE101
12/D05	MIL-STD-462 Version D Method RE102
12/D06	MIL-STD-462 Version D Method RE103
12/D07	MIL-STD-461 Version E Method RE101
12/D08	MIL-STD-461 Version E Method RE102
12/D09	MIL-STD-461 Version E Method RE103
MIL-STD-462 : Radiated Susceptibility:	
12/E01	MIL-STD-462 Method RS01
12/E02	MIL-STD-462 Method RS02
12/E04	MIL-STD-462 Method RS03 employing

	RADHAZ procedures for high level testing (Consult laboratory for field strengths available)
12/E05	MIL-STD-462 Method RS05
12/E07	MIL-STD-462 Method RS06
12/E08	MIL-STD-462 Version D Method RS101
12/E09	MIL-STD-462 Version D Method RS103
12/E10	MIL-STD-462 Version D Method RS105
12/E11	MIL-STD-461 Version E Method RS101
12/E12	MIL-STD-461 Version E Method RS103
12/E13	MIL-STD-461 Version E Method RS105

Telecommunications Test Methods:

12/CS03	CS-03
12/T01	Terminal Equipment Network Protection Standards, FCC Method - 47 CFR Part 68 - Analog and Digital
12/T01a	68.302 (Par. c,d,e,f) Environmental simulation; 68.304 Leakage current limit.; 68.306 Hazardous voltage limit.; 68.308 Signal power limit.; 68.310 Longitudinal balance limit.; 68.312 On-hook impedance limit.; 68.314 Billing protection
12/T01b	68.316 Hearing Aid Compatibility: technical standards
12/T01c	68.302 Environmental simulation (Par. a,b)

NVLAP LAB CODE 100267-1

Retlif Testing Laboratories

101 New Boston Road
Goffstown, NH 03045
Contact: John Monahan
Phone: 631-497-4600
Fax: 631-497-5281

URL: http://www.retlif.com

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: September 30, 2002

Emissions Test Methods:

NVLAP Code	*Designation*
12/CIS14	CISPR 14-1 (March 30, 2000): Limits and methods of measurement of radio interference characteristics of household electrical appliances, portable tools and similar electrical apparatus - Part 1: Emissions
12/CIS14a	EN 55014-1 (1993) with Ammendments A1 (1997) & A2 (1999)
12/CIS14b	AS/NZS 1044 (1995)
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

NVLAP LAB CODE 100268-0

TUV Product Service, Inc.

10040 Mesa Rim Road
San Diego, CA 92121-1034
Contact: Mr. R. Barry Wallen
Phone: 619-546-3999
Fax: 619-546-0364
E-Mail: bwallen@TUVps.com
URL: http://www.tuvps.com

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: December 31, 2002

Emissions Test Methods:

NVLAP Code	*Designation*
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

Immunity Test Methods:

12/I01	IEC 61000-4-2 (1995) and Amendment 1 (1998): Electrostatic Discharge Immunity Test
12/I02	IEC 61000-4-3 (1995) and Amendment 1 (1998): Radiated, Radio-Frequency Electromagnetic Field Immunity Test
12/I03	IEC 61000-4-4 (1995): Electrical Fast Transient/Burst Immunity Test
12/I04	IEC 61000-4-5 (1995): Surge Immunity Test
12/I05	IEC 61000-4-6 (1996): Immunity to Conducted Disturbances, Induced Radio-Frequency Fields
12/I06	IEC 61000-4-8 (1993): Power Frequency Magnetic Field Immunity Test
12/I07	IEC 61000-4-11 (1994): Voltage Dips, Short

	Interruptions and Voltage Variations Immunity Tests

MIL-STD-462 : Conducted Emissions:

12/A01	MIL-STD-462 Method CE01
12/A04	MIL-STD-462 Method CE02
12/A06	MIL-STD-462 Method CE03
12/A08	MIL-STD-462 Method CE04
12/A10	MIL-STD-462 Method CE06
12/A12	MIL-STD-462 Method CE07
12/A13	MIL-STD-462 Version D Method CE101
12/A14	MIL-STD-462 Version D Method CE102
12/A15	MIL-STD-462 Version D Method CE106
12/A16	MIL-STD-461 Version E Method CE101
12/A17	MIL-STD-461 Version E Method CE102
12/A18	MIL-STD-461 Version E Method CE106

MIL-STD-462 : Conducted Susceptibility:

12/B01	MIL-STD-462 Method CS01
12/B02	MIL-STD-462 Method CS02
12/B04	MIL-STD-462 Method CS03/CS04/CS05/CS08
12/B05	MIL-STD-462 Method CS06
12/B06	MIL-STD-462 Method CS07
12/B07	MIL-STD-462 Method CS09
12/B08	MIL-STD-462 Method CS10
12/B09	MIL-STD-462 Method CS11
12/B10	MIL-STD-462 Method CS12
12/B11	MIL-STD-462 Method CS13
12/B12	MIL-STD-462 Version D Method CS101
12/B13	MIL-STD-462 Version D Method CS103
12/B17	MIL-STD-462 Version D Method CS114
12/B18	MIL-STD-462 Version D Method CS115
12/B19	MIL-STD-462 Version D Method CS116
12/B20	MIL-STD-461 Version E Method CS101
12/B21	MIL-STD-461 Version E Method CS103
12/B25	MIL-STD-461 Version E Method CS114
12/B26	MIL-STD-461 Version E Method CS115
12/B27	MIL-STD-461 Version E Method CS116

MIL-STD-462 : Radiated Emissions:

12/D01	MIL-STD-462 Method RE01
12/D02	MIL-STD-462 Method RE02
12/D03	MIL-STD-462 Method RE03
12/D04	MIL-STD-462 Version D Method RE101
12/D05	MIL-STD-462 Version D Method RE102
12/D06	MIL-STD-462 Version D Method RE103
12/D07	MIL-STD-461 Version E Method RE101
12/D08	MIL-STD-461 Version E Method RE102
12/D09	MIL-STD-461 Version E Method RE103

MIL-STD-462 : Radiated Susceptibility:

12/E01	MIL-STD-462 Method RS01
12/E02	MIL-STD-462 Method RS02
12/E03	MIL-STD-462 Method RS03 (Consult laboratory for field strengths available)
12/E04	MIL-STD-462 Method RS03 employing RADHAZ procedures for high level testing (Consult laboratory for field strengths available)
12/E05	MIL-STD-462 Method RS05
12/E07	MIL-STD-462 Method RS06
12/E08	MIL-STD-462 Version D Method RS101
12/E09	MIL-STD-462 Version D Method RS103
12/E10	MIL-STD-462 Version D Method RS105
12/E11	MIL-STD-461 Version E Method RS101
12/E12	MIL-STD-461 Version E Method RS103
12/E13	MIL-STD-461 Version E Method RS105

NVLAP LAB CODE 100269-0

Intermec Technologies Corporation

550 Second Street S.E.
Cedar Rapids, IA 52401-2094
Contact: Mr. Cedric Brownfield
Phone: 319-846-2415
Fax: 319-846-2475
E-Mail: cedric.brownfield@intermec.com

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: September 30, 2002

NVLAP Code	*Designation*

Emissions Test Methods:

12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

NVLAP LAB CODE 100271-0

TUV Product Service, Inc.- A Division of TUV America Inc.

1775 Old Hwy. 8 NW, Suite 104
New Brighton, MN 55112-1891
Contact: Mr. R. Barry Wallen
Phone: 303-402-5241
Fax: 303-449-3004
E-Mail: bwallen@tuvam.com
URL: http://www.tuvglobal.com

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: September 30, 2002

NVLAP Code	*Designation*

Emissions Test Methods:

12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment

12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

Immunity Test Methods:

12/I01	IEC 61000-4-2 (1995) and Amendment 1 (1998): Electrostatic Discharge Immunity Test
12/I02	IEC 61000-4-3 (1995) and Amendment 1 (1998): Radiated, Radio-Frequency Electromagnetic Field Immunity Test
12/I03	IEC 61000-4-4 (1995): Electrical Fast Transient/Burst Immunity Test
12/I04	IEC 61000-4-5 (1995): Surge Immunity Test
12/I05	IEC 61000-4-6 (1996): Immunity to Conducted Disturbances, Induced Radio-Frequency Fields
12/I06	IEC 61000-4-8 (1993): Power Frequency Magnetic Field Immunity Test
12/I07	IEC 61000-4-11 (1994): Voltage Dips, Short Interruptions and Voltage Variations Immunity Tests

MIL-STD-462 : Conducted Emissions:

12/A01	MIL-STD-462 Method CE01
12/A04	MIL-STD-462 Method CE02
12/A06	MIL-STD-462 Method CE03
12/A08	MIL-STD-462 Method CE04
12/A12	MIL-STD-462 Method CE07
12/A13	MIL-STD-462 Version D Method CE101
12/A14	MIL-STD-462 Version D Method CE102
12/A16	MIL-STD-461 Version E Method CE101
12/A17	MIL-STD-461 Version E Method CE102

MIL-STD-462 : Conducted Susceptibility:

12/B01	MIL-STD-462 Method CS01
12/B02	MIL-STD-462 Method CS02
12/B05	MIL-STD-462 Method CS06
12/B07	MIL-STD-462 Method CS09
12/B12	MIL-STD-462 Version D Method CS101
12/B16	MIL-STD-462 Version D Method CS109
12/B20	MIL-STD-461 Version E Method CS101
12/B24	MIL-STD-461 Version E Method CS109

MIL-STD-462 : Radiated Emissions:

12/D01	MIL-STD-462 Method RE01
12/D02	MIL-STD-462 Method RE02
12/D04	MIL-STD-462 Version D Method RE101
12/D05	MIL-STD-462 Version D Method RE102
12/D07	MIL-STD-461 Version E Method RE101
12/D08	MIL-STD-461 Version E Method RE102

MIL-STD-462 : Radiated Susceptibility:

12/E01	MIL-STD-462 Method RS01
12/E02	MIL-STD-462 Method RS02
12/E03	MIL-STD-462 Method RS03 (Consult laboratory for field strengths available)
12/E04	MIL-STD-462 Method RS03 employing RADHAZ procedures for high level testing (Consult laboratory for field strengths available)
12/E07	MIL-STD-462 Method RS06
12/E08	MIL-STD-462 Version D Method RS101
12/E09	MIL-STD-462 Version D Method RS103
12/E11	MIL-STD-461 Version E Method RS101
12/E12	MIL-STD-461 Version E Method RS103

Safety Test Methods:

12/T41	ACA TS-001
12/T50	AS/NZS 3260

NVLAP LAB CODE 100271-1

TUV Product Service, Inc.

5541 Central Avenue
Boulder, CO 80301-2846
Contact: Robert G. Creswell
Phone: 303-402-5246
Fax: 303-449-3004
E-Mail: rcresswell@tuvam.com
URL: http://www.tuvglobal.com

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: September 30, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548
Immunity Test Methods:	
12/I01	IEC 61000-4-2 (1995) and Amendment 1 (1998): Electrostatic Discharge Immunity Test
12/I02	IEC 61000-4-3 (1995) and Amendment 1 (1998): Radiated, Radio-Frequency Electromagnetic Field Immunity Test
12/I03	IEC 61000-4-4 (1995): Electrical Fast Transient/Burst Immunity Test
12/I04	IEC 61000-4-5 (1995): Surge Immunity Test
12/I05	IEC 61000-4-6 (1996): Immunity to Conducted Disturbances, Induced Radio-Frequency Fields
12/I06	IEC 61000-4-8 (1993): Power Frequency

(See 'How To Use This Directory' on page 7.)

	Magnetic Field Immunity Test
12/I07	IEC 61000-4-11 (1994): Voltage Dips, Short Interruptions and Voltage Variations Immunity Tests

NVLAP LAB CODE 100272-0

Communication Certification Laboratory

1940 West Alexander Street
Salt Lake City, UT 84119-2039
Contact: Mr. Scott B. Earl
Phone: 801-972-6146
Fax: 801-972-8432
E-Mail: sbe@cclab.com
URL: http://www.cclab.com/

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: September 30, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548
Safety Test Methods:	
12/T41	ACA TS-001
12/T50	AS/NZS 3260
Telecommunications Test Methods:	
12/CS03	CS-03
12/T01	Terminal Equipment Network Protection Standards, FCC Method - 47 CFR Part 68 - Analog and Digital
12/T01a	68.302 (Par. c,d,e,f) Environmental simulation; 68.304 Leakage current limit.; 68.306 Hazardous voltage limit.; 68.308 Signal power limit.; 68.310 Longitudinal balance limit.; 68.312 On-hook impedance limit.; 68.314 Billing protection
12/T01b	68.316 Hearing Aid Compatibility: technical standards
12/T01c	68.302 Environmental simulation (Par. a,b)
12/T42	ACA TS-002
12/T43	ACA TS-003
12/T44	ACA TS-004
12/T45	ACA TS-006
12/T46	ACA TS-008
12/T49	ACA TS-016

NVLAP LAB CODE 100273-0

MET Laboratories, Inc.

914 W. Patapsco Avenue
Baltimore, MD 21230-3432
Contact: Mr. Robert Frier
Phone: 410-354-3300
Fax: 410-354-3313
E-Mail: rfrier@metlabs.com
URL: http://www.metlabs.com

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: September 30, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS14	CISPR 14-1 (March 30, 2000): Limits and methods of measurement of radio interference characteristics of household electrical appliances, portable tools and similar electrical apparatus - Part 1: Emissions
12/CIS14a	EN 55014-1 (1993) with Ammendments A1 (1997) & A2 (1999)
12/CIS14b	AS/NZS 1044 (1995)
12/CIS14c	CNS 13783-1
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548
Immunity Test Methods:	
12/I01	IEC 61000-4-2 (1995) and Amendment 1 (1998): Electrostatic Discharge Immunity Test
12/I02	IEC 61000-4-3 (1995) and Amendment 1 (1998): Radiated, Radio-Frequency Electromagnetic Field Immunity Test
12/I03	IEC 61000-4-4 (1995): Electrical Fast Transient/Burst Immunity Test
12/I04	IEC 61000-4-5 (1995): Surge Immunity Test
12/I05	IEC 61000-4-6 (1996): Immunity to Conducted Disturbances, Induced Radio-Frequency Fields

12/I06	IEC 61000-4-8 (1993): Power Frequency Magnetic Field Immunity Test
12/I07	IEC 61000-4-11 (1994): Voltage Dips, Short Interruptions and Voltage Variations Immunity Tests

Safety Test Methods:

12/T41	ACA TS-001
12/T50	AS/NZS 3260

Telecommunications Test Methods:

12/CS03	CS-03
12/T01	Terminal Equipment Network Protection Standards, FCC Method - 47 CFR Part 68 - Analog and Digital
12/T01a	68.302 (Par. c,d,e,f) Environmental simulation; 68.304 Leakage current limit.; 68.306 Hazardous voltage limit.; 68.308 Signal power limit.; 68.310 Longitudinal balance limit.; 68.312 On-hook impedance limit.; 68.314 Billing protection
12/T01b	68.316 Hearing Aid Compatibility: technical standards
12/T01c	68.302 Environmental simulation (Par. a,b)
12/T42	ACA TS-002
12/T43	ACA TS-003
12/T44	ACA TS-004
12/T45	ACA TS-006
12/T49	ACA TS-016

NVLAP LAB CODE 100274-0

Intertek Testing Services NA Inc.

731 Enterprise Drive
Lexington, KY 40510-1029
Contact: Mr. Tim Scott
Phone: 859-226-1083
Fax: 859-226-1080
E-Mail: tims@ETLSEMKO.COM
URL: http://www.http://www.ETLSEMKO.COM

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: September 30, 2002

Emissions Test Methods:

NVLAP Code	*Designation*
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

Immunity Test Methods:

12/I01	IEC 61000-4-2 (1995) and Amendment 1 (1998): Electrostatic Discharge Immunity Test
12/I02	IEC 61000-4-3 (1995) and Amendment 1 (1998): Radiated, Radio-Frequency Electromagnetic Field Immunity Test
12/I03	IEC 61000-4-4 (1995): Electrical Fast Transient/Burst Immunity Test
12/I04	IEC 61000-4-5 (1995): Surge Immunity Test
12/I05	IEC 61000-4-6 (1996): Immunity to Conducted Disturbances, Induced Radio-Frequency Fields
12/I06	IEC 61000-4-8 (1993): Power Frequency Magnetic Field Immunity Test
12/I07	IEC 61000-4-11 (1994): Voltage Dips, Short Interruptions and Voltage Variations Immunity Tests

Safety Test Methods:

12/T41	ACA TS-001
12/T50	AS/NZS 3260

Telecommunications Test Methods:

12/CS03	CS-03
12/T01	Terminal Equipment Network Protection Standards, FCC Method - 47 CFR Part 68 - Analog and Digital
12/T01a	68.302 (Par. c,d,e,f) Environmental simulation; 68.304 Leakage current limit.; 68.306 Hazardous voltage limit.; 68.308 Signal power limit.; 68.310 Longitudinal balance limit.; 68.312 On-hook impedance limit.; 68.314 Billing protection
12/T01b	68.316 Hearing Aid Compatibility: technical standards
12/T01c	68.302 Environmental simulation (Par. a,b)
12/T42	ACA TS-002
12/T43	ACA TS-003
12/T44	ACA TS-004
12/T45	ACA TS-006
12/T46	ACA TS-008
12/T49	ACA TS-016

NVLAP LAB CODE 100275-0

Lucent Technologies, Global Product Compliance Lab

101 Crawfords Corner Road, M/S 11C-165
P.O. Box 3030
Holmdel, NJ 07733-3030
Contact: Mr. Hernan R. Noguchi
Phone: 732-332-6002
Fax: 732-332-5999
E-Mail: hrnoguchi@lucent.com
URL: http://www.gpcl.com

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: September 30, 2002

NVLAP
Code *Designation*

Emissions Test Methods:

12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

Immunity Test Methods:

12/I01	IEC 61000-4-2 (1995) and Amendment 1 (1998): Electrostatic Discharge Immunity Test
12/I02	IEC 61000-4-3 (1995) and Amendment 1 (1998): Radiated, Radio-Frequency Electromagnetic Field Immunity Test
12/I03	IEC 61000-4-4 (1995): Electrical Fast Transient/Burst Immunity Test
12/I04	IEC 61000-4-5 (1995): Surge Immunity Test
12/I05	IEC 61000-4-6 (1996): Immunity to Conducted Disturbances, Induced Radio-Frequency Fields
12/I07	IEC 61000-4-11 (1994): Voltage Dips, Short Interruptions and Voltage Variations Immunity Tests

Safety Test Methods:

12/T41	ACA TS-001
12/T50	AS/NZS 3260

Telecommunications Test Methods:

12/T42	ACA TS-002
12/T44	ACA TS-004
12/T45	ACA TS-006
12/T46	ACA TS-008

NVLAP LAB CODE 100276-0

D.L.S. Electronic Systems, Inc.

1250 Peterson Drive
Wheeling, IL 60090-6454
Contact: Mr. Brian J. Mattson
Phone: 847-537-6400
Fax: 847-537-6488
E-Mail: bmattson@dlsemc.com
URL: http://www.dlsemc.com

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: September 30, 2002

Emissions Test Methods:

NVLAP Code	*Designation*
12/CIS14	CISPR 14-1 (March 30, 2000): Limits and methods of measurement of radio interference characteristics of household electrical appliances, portable tools and similar electrical apparatus - Part 1: Emissions
12/CIS14a	EN 55014-1 (1993) with Ammendments A1 (1997) & A2 (1999)
12/CIS14b	AS/NZS 1044 (1995)
12/CIS14c	CNS 13783-1
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

Immunity Test Methods:

12/I01	IEC 61000-4-2 (1995) and Amendment 1 (1998): Electrostatic Discharge Immunity Test
12/I02	IEC 61000-4-3 (1995) and Amendment 1 (1998): Radiated, Radio-Frequency Electromagnetic Field Immunity Test
12/I03	IEC 61000-4-4 (1995): Electrical Fast Transient/Burst Immunity Test
12/I04	IEC 61000-4-5 (1995): Surge Immunity Test
12/I05	IEC 61000-4-6 (1996): Immunity to Conducted Disturbances, Induced Radio-Frequency Fields
12/I06	IEC 61000-4-8 (1993): Power Frequency Magnetic Field Immunity Test

(See 'How To Use This Directory' on page 7.)

IEC 61000-4-11 (1994): Voltage Dips, Short Interruptions and Voltage Variations Immunity Tests

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NVLAP LAB CODE 100278-0

Elite Electronic Engineering Inc.

1516 Centre Circle
Downers Grove, IL 60515-1082
Contact: Mr. Raymond Klouda
Phone: 630-495-9770
Fax: 630-495-9785
E-Mail: engineering@elitetest.com
URL: http://www.elitetest.com

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: September 30, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS14	CISPR 14-1 (March 30, 2000): Limits and methods of measurement of radio interference characteristics of household electrical appliances, portable tools and similar electrical apparatus - Part 1: Emissions
12/CIS14a	EN 55014-1 (1993) with Ammendments A1 (1997) & A2 (1999)
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548
Immunity Test Methods:	
12/I01	IEC 61000-4-2 (1995) and Amendment 1 (1998): Electrostatic Discharge Immunity Test
12/I02	IEC 61000-4-3 (1995) and Amendment 1 (1998): Radiated, Radio-Frequency Electromagnetic Field Immunity Test
12/I03	IEC 61000-4-4 (1995): Electrical Fast Transient/Burst Immunity Test
12/I04	IEC 61000-4-5 (1995): Surge Immunity Test
12/I05	IEC 61000-4-6 (1996): Immunity to Conducted Disturbances, Induced Radio-Frequency Fields
12/I06	IEC 61000-4-8 (1993): Power Frequency Magnetic Field Immunity Test
12/I07	IEC 61000-4-11 (1994): Voltage Dips, Short Interruptions and Voltage Variations Immunity Tests
MIL-STD-462 : Conducted Emissions:	
12/A01	MIL-STD-462 Method CE01
12/A04	MIL-STD-462 Method CE02
12/A06	MIL-STD-462 Method CE03
12/A08	MIL-STD-462 Method CE04
12/A10	MIL-STD-462 Method CE06
12/A12	MIL-STD-462 Method CE07
12/A13	MIL-STD-462 Version D Method CE101
12/A14	MIL-STD-462 Version D Method CE102
12/A15	MIL-STD-462 Version D Method CE106
12/A16	MIL-STD-461 Version E Method CE101
12/A17	MIL-STD-461 Version E Method CE102
12/A18	MIL-STD-461 Version E Method CE106
MIL-STD-462 : Conducted Susceptibility:	
12/B01	MIL-STD-462 Method CS01
12/B02	MIL-STD-462 Method CS02
12/B04	MIL-STD-462 Method CS03/CS04/CS05/CS08
12/B05	MIL-STD-462 Method CS06
12/B06	MIL-STD-462 Method CS07
12/B07	MIL-STD-462 Method CS09
12/B08	MIL-STD-462 Method CS10
12/B09	MIL-STD-462 Method CS11
12/B10	MIL-STD-462 Method CS12
12/B11	MIL-STD-462 Method CS13
12/B12	MIL-STD-462 Version D Method CS101
12/B13	MIL-STD-462 Version D Method CS103
12/B14	MIL-STD-462 Version D Method CS104
12/B15	MIL-STD-462 Version D Method CS105
12/B16	MIL-STD-462 Version D Method CS109
12/B17	MIL-STD-462 Version D Method CS114
12/B18	MIL-STD-462 Version D Method CS115
12/B19	MIL-STD-462 Version D Method CS116
12/B20	MIL-STD-461 Version E Method CS101
12/B21	MIL-STD-461 Version E Method CS103
12/B22	MIL-STD-461 Version E Method CS104
12/B23	MIL-STD-461 Version E Method CS105
12/B24	MIL-STD-461 Version E Method CS109
12/B25	MIL-STD-461 Version E Method CS114
12/B26	MIL-STD-461 Version E Method CS115
12/B27	MIL-STD-461 Version E Method CS116
MIL-STD-462 : Radiated Emissions:	
12/D01	MIL-STD-462 Method RE01
12/D02	MIL-STD-462 Method RE02
12/D03	MIL-STD-462 Method RE03
12/D04	MIL-STD-462 Version D Method RE101
12/D05	MIL-STD-462 Version D Method RE102
12/D06	MIL-STD-462 Version D Method RE103
12/D07	MIL-STD-461 Version E Method RE101
12/D08	MIL-STD-461 Version E Method RE102
12/D09	MIL-STD-461 Version E Method RE103
MIL-STD-462 : Radiated Susceptibility:	
12/E01	MIL-STD-462 Method RS01
12/E02	MIL-STD-462 Method RS02
12/E04	MIL-STD-462 Method RS03 employing RADHAZ procedures for high level testing (Consult laboratory for field strengths available)
12/E05	MIL-STD-462 Method RS05
12/E07	MIL-STD-462 Method RS06
12/E08	MIL-STD-462 Version D Method RS101

12/E09	MIL-STD-462 Version D Method RS103
12/E10	MIL-STD-462 Version D Method RS105
12/E11	MIL-STD-461 Version E Method RS101
12/E12	MIL-STD-461 Version E Method RS103
12/E13	MIL-STD-461 Version E Method RS105

Telecommunications Test Methods:

12/CS03	CS-03
12/T01	Terminal Equipment Network Protection Standards, FCC Method - 47 CFR Part 68 - Analog and Digital
12/T01a	68.302 (Par. c,d,e,f) Environmental simulation; 68.304 Leakage current limit.; 68.306 Hazardous voltage limit.; 68.308 Signal power limit.; 68.310 Longitudinal balance limit.; 68.312 On-hook impedance limit.; 68.314 Billing protection
12/T01b	68.316 Hearing Aid Compatibility: technical standards
12/T01c	68.302 Environmental simulation (Par. a,b)

NVLAP LAB CODE 100280-0

IIT Research Institute/R&B Operation

20 Clipper Road
West Conshohocken, PA 19428-2721
Contact: Mr. Rohit Vohra
Phone: 610-825-1960 x229
Fax: 610-825-1684
E-Mail: rvohra@iitri.org
URL: www.IITRI.org

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: September 30, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
MIL-STD-462 : Conducted Emissions:	
12/A01	MIL-STD-462 Method CE01
12/A06	MIL-STD-462 Method CE03
12/A10	MIL-STD-462 Method CE06
12/A12	MIL-STD-462 Method CE07
MIL-STD-462 : Conducted Susceptibility:	
12/B01	MIL-STD-462 Method CS01
12/B02	MIL-STD-462 Method CS02
12/B05	MIL-STD-462 Method CS06
12/B06	MIL-STD-462 Method CS07
12/B07	MIL-STD-462 Method CS09
12/B08	MIL-STD-462 Method CS10
12/B09	MIL-STD-462 Method CS11
12/B10	MIL-STD-462 Method CS12
12/B11	MIL-STD-462 Method CS13
MIL-STD-462 : Radiated Emissions:	
12/D01	MIL-STD-462 Method RE01
12/D02	MIL-STD-462 Method RE02
MIL-STD-462 : Radiated Susceptibility:	
12/E01	MIL-STD-462 Method RS01
12/E02	MIL-STD-462 Method RS02
12/E04	MIL-STD-462 Method RS03 employing RADHAZ procedures for high level testing (Consult laboratory for field strengths available)
12/E05	MIL-STD-462 Method RS05

NVLAP LAB CODE 100286-0

Acoustic Systems Acoustical Research Facility

415 East St. Elmo Road
P.O. Box 3610
Austin, TX 78764
Contact: Mr. Michael C. Black
Phone: 512-444-1961
Fax: 512-444-2282
E-Mail: lab@acouticsystems.com

Acoustical Testing Services

Accreditation Valid Through: June 30, 2002

NVLAP Code	*Designation*
08/P03	ASTM C423
08/P06	ASTM E90
08/P08	ASTM E596
08/P10	ANSI S12.31
08/P11	ISO 3744
08/P35	ASTM E1050
08/P40	ISO 9296
08/P41	ECMA 74
08/P42	ECMA 109
08/P48	ISO 7779

NVLAP LAB CODE 100288-0

Bentley Prince Street Testing Laboratory

14641 E. Don Julian Road
P.O. Box 527
City of Industry, CA 91746-3106
Contact: Ms. Yessenia Juarez
Phone: 626-333-4585 x2153
Fax: 626-333-4125
E-Mail: Yessenia.Juarez@us.interfaceinc.com

Carpet and Carpet Cushion

Accreditation Valid Through: September 30, 2002

NVLAP Code	*Designation*
Tests Applicable to Carpet Cushion	
03/U01a	ASTM D3574 (Sec. 8.2 & Test A)
03/U01b	ASTM D3676 (Secs. 10-12)
03/U02	ASTM D297
03/U07	ASTM D3574 (Test C)
03/U08	ASTM D3574 (Test D)
03/U10	ASTM D3676 (Sec. 13)
03/U11	ASTM D3676 (Sec.14)
03/U12	ASTM D3676 (Sec.15)
03/U13	ASTM D3676 (Sec.16)

Tests Applicable to Carpet and Carpet Cushion

03/T01	AATCC 16 (Option E)
03/T04	16 CFR Part 1630 (FF-1-70)

Tests Applicable to Carpets

03/G04	AATCC 165
03/G05	ASTM D418 (Sec. 8)
03/G05a	ASTM D5848 (Sec. 8)
03/G06	ASTM D418 (Sec. 9)
03/G07	ASTM D418 (Secs. 10-11)
03/G08	ASTM D418 (Sec. 13)
03/G09	ASTM D1335
03/G10	ASTM D3936
03/G12	ASTM E648
03/G13	ASTM E662
03/G14	Fed Spec, DDD-C-0095A

NVLAP LAB CODE 100290-0

Akzo Nobel K.K., Kashima EMC Site

1 Oaza Sunayama, Hasaki, Kashima-gun
Ibaraki 314-02
JAPAN
Contact: Mr. Shuichi Kobayashi
Phone: 81-479-40-1097
Fax: 81-479-46-1788
E-Mail: shuichi.kobayashi@nifty.ne.jp
URL: http://www.akzoemc.co.jp

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: December 31, 2002

Emissions Test Methods:

NVLAP Code	*Designation*
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

NVLAP LAB CODE 100290-2

Akzo Nobel K.K., Kakegawa EMC Test Site

322 Shimotaruki, Kakegawa
Shizuoka 436-0222
JAPAN
Contact: Seiji Matsuda
Phone: +81-537-24-8191
Fax: +81-537-24-8193
E-Mail: matsuda@akzoemc.co.jp
URL: http://www.akzoemc.co.jp

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: December 31, 2002

Emissions Test Methods:

NVLAP Code	*Designation*
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

NVLAP LAB CODE 100290-3

Akzo Nobel K.K., Nagano EMC Test Site

3226 Yokokawa, Tatsuno, Kamiina-gun
Nagano 399-0511
JAPAN
Contact: Yoshio Kowase
Phone: +81-266-47-5311
Fax: +81-266-47-5540
E-Mail: kowase@akzoemc.co.jp
URL: http://www.akzoemc.co.jp

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: December 31, 2002

Emissions Test Methods:

NVLAP Code	*Designation*
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices

(See 'How To Use This Directory' on page 7.)

12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

NVLAP LAB CODE 100290-4

Akzo Nobel K.K., Matsuda EMC Test Site

1283 Yadorigi, Matsuda, Ashigarakami-gun
Kanagawa 258-0001
JAPAN
Contact: Hideki Hayashi
Phone: +81-465-89-2316
Fax: +81-465-89-2160
E-Mail: hayashi@akzoemc.co.jp
URL: http://www.akzoemc.co.jp

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: December 31, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

NVLAP LAB CODE 100290-5

Akzo Nobel K.K., Tochigi EMC Test Site

870 Nakaawano, Awano, Kamitsuga-gun
Tochigi 322-0306
JAPAN
Contact: Yuji Ohashi
Phone: +81-289-86-7121
Fax: +81-289-86-7126
E-Mail: ohashi@akzoemc.co.jp
URL: http://www.akzoemc.co.jp

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: December 31, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

NVLAP LAB CODE 100296-0

Chomerics Test Services (CTS)

77 Dragon Court
Woburn, MA 01888-4014
Contact: Mr. David C. Inman
Phone: 781-939-4375
Fax: 781-935-2758
E-Mail: dinman@parker.com
URL: http://www.chomericstest.com

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: June 30, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS14	CISPR 14-1 (March 30, 2000): Limits and methods of measurement of radio interference characteristics of household electrical appliances, portable tools and similar electrical apparatus - Part 1: Emissions
12/CIS14a	EN 55014-1 (1993) with Ammendments A1 (1997) & A2 (1999)
12/CIS14b	AS/NZS 1044 (1995)
12/CIS14c	CNS 13783-1
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

(See 'How To Use This Directory' on page 7.)

NVLAP LAB CODE 100297-0

Professional Testing Laboratory, Inc.

714 Glenwood Place
Dalton, GA 30721
Contact: Mr. Greg Phillips
Phone: 706-226-3283
Fax: 706-226-6787
E-Mail: protest@alltel.net

Carpet and Carpet Cushion

Accreditation Valid Through: June 30, 2002

NVLAP Code	*Designation*
Tests Applicable to Carpet Cushion	
03/U01a	ASTM D3574 (Sec. 8.2 & Test A)
03/U01b	ASTM D3676 (Secs. 10-12)
03/U02	ASTM D297
03/U03	ASTM D629 (Sec. 10)
03/U04	ASTM D629 (Secs. 13-22)
03/U05	ASTM D629 (Secs. 23-27)
03/U06	ASTM D1667 (Suffix B)
03/U07	ASTM D3574 (Test C)
03/U08	ASTM D3574 (Test D)
03/U09	ASTM D3574 (Test E)
03/U10	ASTM D3676 (Sec. 13)
03/U11	ASTM D3676 (Sec.14)
03/U12	ASTM D3676 (Sec.15)
03/U13	ASTM D3676 (Sec.16)
Tests Applicable to Carpet and Carpet Cushion	
03/T01	AATCC 16 (Option E)
03/T02	ASTM D2646 (Secs. 16-24)
03/T02a	ASTM D2646 (Sec. 16)
03/T04	16 CFR Part 1630 (FF-1-70)
Tests Applicable to Carpets	
03/G01	AATCC 20
03/G02	AATCC 20A
03/G03	AATCC 134
03/G04	AATCC 165
03/G05	ASTM D418 (Sec. 8)
03/G05a	ASTM D5848 (Sec. 8)
03/G06	ASTM D418 (Sec. 9)
03/G06a	ASTM D5848 (Sec. 9)
03/G07	ASTM D418 (Secs. 10-11)
03/G08	ASTM D418 (Sec. 13)
03/G08a	ASTM D5823
03/G09	ASTM D1335
03/G10	ASTM D3936
03/G11	ASTM D5252
03/G12	ASTM E648
03/G13	ASTM E662
03/G15	ASTM D6119
03/G16	CRI TM-101

NVLAP LAB CODE 100308-0

Special Testing Laboratories, Inc.

21 Henry Street
P.O. Box 200
Bethel, CT 06801-0200
Contact: Mr. Richard Speciale
Phone: 203-743-7281
Fax: 203-791-2451

Construction Materials Testing

Accreditation Valid Through: December 31, 2002

NVLAP Code	*Designation*
Aggregates	
02/A03	ASTM C29
02/A04	ASTM C40
02/A06	ASTM C88
02/A07	ASTM C117
02/A09	ASTM C127
02/A10	ASTM C128
02/A11	ASTM C131
02/A12	ASTM C136
02/A15	ASTM D75
02/A15	ASTM D75
02/A44	ASTM C566
Concrete	
02/A01	ASTM C39
02/A02	ASTM C617
02/A41	ASTM C192
02/A43	ASTM C1064
02/A45	ASTM C42
02/G01	ASTM C31/C172/C143/C138/C231
02/G02	ASTM C173
Road and Paving Materials	
02/M25	ASTM D2726
Soil and Rock	
02/L04	ASTM D698
02/L06	ASTM D1140
02/L07	ASTM D1556
02/L08	ASTM D1557
02/L09	ASTM D1558
02/L12	ASTM D2168
02/L13	ASTM D2216
02/L16	ASTM D2487
02/L17	ASTM D2488
02/L20	ASTM D4318
02/L23	ASTM D2922
02/L25	ASTM D3017
02/L31	ASTM D2167
Standard Practices	
02/A38	ASTM E329
02/A39	ASTM C1077
Steel Materials	
02/S02	ASTM A370 (Sec. 14)/E190
02/S07	ASTM E709
02/S08	ASTM E165

NVLAP LAB CODE 100315-0

Eastern Materials Testing Lab a division of Jaworski Geotech

114 Woodlawn Road
Berlin, CT 06037
Contact: Mr. Kevin J. Brigandi
Phone: 800-232-3634
Fax: 888-215-9721
E-Mail: emtl@jgi-geo.com
URL: http://www.jgi-geo.com

Construction Materials Testing

Accreditation Valid Through: June 30, 2002

NVLAP Code	*Designation*
Aggregates	
02/A03	ASTM C29
02/A04	ASTM C40
02/A06	ASTM C88
02/A07	ASTM C117
02/A09	ASTM C127
02/A10	ASTM C128
02/A12	ASTM C136
02/A15	ASTM D75
Cement	
02/A17	ASTM C109
02/A21	ASTM C157
02/A28	ASTM C227
02/A30	ASTM C266
02/A51	ASTM C780 (Annex A7)
02/A52	ASTM C1019
Concrete	
02/A01	ASTM C39
02/A02	ASTM C617
02/A41	ASTM C192
02/A43	ASTM C1064
02/A45	ASTM C42
02/G01	ASTM C31/C172/C143/C138/C231
02/G02	ASTM C173
Road and Paving Materials	
02/M19	ASTM D2172
02/M25	ASTM D2726
Soil and Rock	
02/L02	ASTM D422
02/L04	ASTM D698
02/L05	ASTM D854
02/L06	ASTM D1140
02/L08	ASTM D1557
02/L12	ASTM D2168
02/L13	ASTM D2216
02/L16	ASTM D2487
02/L17	ASTM D2488
02/L20	ASTM D4318
02/L23	ASTM D2922
02/L25	ASTM D3017
02/L31	ASTM D2167
Standard Practices	
02/A38	ASTM E329
02/A39	ASTM C1077
Steel Materials	
02/S07	ASTM E709

NVLAP LAB CODE 100316-0

Independent Materials Testing Laboratories, Inc.

57 N. Washington Street
P.O. Box 745
Plainville, CT 06062-0745
Contact: Mr. David P. Aiudi
Phone: 860-747-1000
Fax: 860-747-6455

Construction Materials Testing

Accreditation Valid Through: March 31, 2002

NVLAP Code	*Designation*
Aggregates	
02/A03	ASTM C29
02/A04	ASTM C40
02/A05	ASTM C87
02/A06	ASTM C88
02/A07	ASTM C117
02/A08	ASTM C123
02/A09	ASTM C127
02/A10	ASTM C128
02/A11	ASTM C131
02/A12	ASTM C136
02/A13	ASTM C142
02/A15	ASTM D75
02/A44	ASTM C566
02/A46	ASTM C535
Cement	
02/A26	ASTM C191
02/A31	ASTM C305
02/A51	ASTM C780 (Annex A7)
02/A52	ASTM C1019
Concrete	
02/A01	ASTM C39
02/A02	ASTM C617
02/A40	ASTM C78
02/A41	ASTM C192
02/A43	ASTM C1064
02/A45	ASTM C42
02/G01	ASTM C31/C172/C143/C138/C231
02/G02	ASTM C173
Road and Paving Materials	
02/M08	ASTM D979
02/M11	ASTM D1188
02/M19	ASTM D2172
02/M24	ASTM D2041
02/M25	ASTM D2726
Soil and Rock	
02/L01	ASTM D4220
02/L02	ASTM D422
02/L04	ASTM D698
02/L05	ASTM D854
02/L06	ASTM D1140
02/L07	ASTM D1556
02/L08	ASTM D1557

(See 'How To Use This Directory' on page 7.)

02/L10	ASTM D1883
02/L12	ASTM D2168
02/L13	ASTM D2216
02/L14	ASTM D2217
02/L16	ASTM D2487
02/L17	ASTM D2488
02/L20	ASTM D4318
02/L21	ASTM D2434
02/L23	ASTM D2922
02/L24	ASTM D2974
02/L25	ASTM D3017
02/L31	ASTM D2167

Standard Practices

02/A38	ASTM E329
02/A39	ASTM C1077
02/A50	ASTM C1093
02/L32	ASTM D3740

Steel Materials

02/S07	ASTM E709
02/S08	ASTM E165

NVLAP LAB CODE 100317-0

Fairfield Testing Laboratory, Inc.

652 Glenbrook Road, P.O. 2310
Stamford, CT 06906
Contact: Mr. James E. Quill
Phone: 203-372-1980
Fax: 203-372-1898
E-Mail: JQuill@aol.com

Construction Materials Testing

Accreditation Valid Through: March 31, 2002

Concrete

NVLAP Code	*Designation*
02/A01	ASTM C39
02/A02	ASTM C617
02/A43	ASTM C1064
02/G01	ASTM C31/C172/C143/C138/C231
02/G02	ASTM C173

Soil and Rock

02/L02	ASTM D422
02/L04	ASTM D698
02/L08	ASTM D1557
02/L16	ASTM D2487
02/L17	ASTM D2488
02/L23	ASTM D2922
02/L25	ASTM D3017

NVLAP LAB CODE 100320-0

Materials Testing, Inc.

200 Rowe Avenue
Milford, CT 06460
Contact: Mr. Frank A. Soucy
Phone: 203-878-2765
Fax: 203-878-1504

Construction Materials Testing

Accreditation Valid Through: December 31, 2002

Aggregates

NVLAP Code	*Designation*
02/A03	ASTM C29
02/A04	ASTM C40
02/A06	ASTM C88
02/A07	ASTM C117
02/A08	ASTM C123
02/A09	ASTM C127
02/A10	ASTM C128
02/A11	ASTM C131
02/A12	ASTM C136
02/A13	ASTM C142
02/A15	ASTM D75
02/A44	ASTM C566
02/A46	ASTM C535

Cement

02/A17	ASTM C109

Concrete

02/A01	ASTM C39
02/A02	ASTM C617
02/A40	ASTM C78
02/A41	ASTM C192
02/A43	ASTM C1064
02/G01	ASTM C31/C172/C143/C138/C231
02/G02	ASTM C173

Soil and Rock

02/L02	ASTM D422
02/L04	ASTM D698
02/L05	ASTM D854
02/L06	ASTM D1140
02/L07	ASTM D1556
02/L08	ASTM D1557
02/L13	ASTM D2216
02/L20	ASTM D4318
02/L23	ASTM D2922
02/L31	ASTM D2167

NVLAP LAB CODE 100322-0

CSA International

178 Rexdale Boulevard
Toronto Ontario M9W 1R3
CANADA
Contact: Mr. Otto C. Krepps, P.Eng
Phone: 416-747-2798
Fax: 416-747-4173
E-Mail: otto.krepps@csa-international.org

Commercial Products Testing

Accreditation Valid Through: March 31, 2002

NVLAP Code	*Designation*
Plumbing	
19/F01	ASME A112.18.1M (Sec. 5.2)
19/F02	ASME A112.18.1M (Sec. 5.14)
19/F03	ASME A112.18.1M (Sec. 6.2)
19/F04	ASME A112.18.1M (Sec. 6.4)
19/F05	ASME A112.18.1M (Sec. 6.5)
19/F06	ASME A112.18.1M (Sec. 6.6)
19/F07	ASME A112.18.1M (Sec. 6.7)
19/F08	ASME A112.18.1M (Sec. 6.8)
19/F09	ASME A112.18.1M (Sec. 5.13)
19/F10	ASME A112.18.1M (Sec. 6.3)
19/M01	ICC/ANSI A117.1 (Sec. 609, 610)
19/M02	ASME/ANSI A112.19.7M (Sec. 5, 7)
19/M03	ASME/ANSI A112.19.8M (Sec. 4, 5)
19/M04	ASTM F446
19/P01	ANSI Z124.1 (Sec. 4, 5, 6)
19/P02	ANSI Z124.2 (Sec. 4, 5, 6)
19/P03	ANSI Z124.3 (Sec. 4, 5, 6)
19/P03a	ICPA-SS-1 (Sec. 4, 5, 6)
19/P04	ANSI Z124.4 (Sec. 4, 5)
19/P05	ANSI Z124.4 (Sec. 8) per ASME A112.19.6M (Sec. 7.1)
19/P06	ANSI/IAPMO Z124.6 (Sec. 4, 5, 6)
19/P07	ANSI/IAPMO Z124.8 (Sec. 4, 5)
19/U01	ASME/ANSI A112.18.3M (Sec. 5.1, 12.1, 12.2, 13, 14, 16)
19/V01	ASME A112.19.2M (Sec. 8.1)
19/V02	ASME A112.19.2M (Sec. 8.2)
19/V03	ASME A112.19.2M (Sec. 8.3)
19/V04	ASME A112.19.2M (Sec. 8.7)
19/V05	ASME A112.19.2M (Sec. 8.6)
19/V06	ASME A112.19.2M (Sec. 8.5)
19/W01	ASME A112.19.6 (Sec. 7.1.2)
19/W02	ASME A112.19.6 (Sec. 7.1.3)
19/W03	ASME A112.19.6 (Sec. 7.1.4)
19/W04	ASME A112.19.6 (Sec. 7.1.5)
19/W05	ASME A112.19.6 (Sec. 7.1.6)
19/W06	ASME A112.19.6 (Sec. 7.1.7)
19/W07	ASME A112.19.6 (Sec. 7.1.8)
19/W08	ASME A112.19.6 (Sec. 7.1.9)

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: March 31, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS22	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548
Safety Test Methods:	
12/T41	ACA TS-001
12/T50	AS/NZS 3260

NVLAP LAB CODE 100323-0

IBM Hudson Valley Acoustics Laboratory

Building 704, M/S P226
522 South Road
Poughkeepsie, NY 12601-5400
Contact: Dr. Matthew A. Nobile
Phone: 845-435-4959
Fax: 845-432-9880
E-Mail: nobile@us.ibm.com

Acoustical Testing Services

Accreditation Valid Through: March 31, 2002

NVLAP Code	*Designation*
08/P03	ASTM C423
08/P10	ANSI S12.31
08/P11	ISO 3744
08/P13	ANSI S12.32
08/P21	ISO 3745
08/P24	ANSI S12.10
08/P38	ANSI S12.11
08/P39	ANSI S12.5
08/P40	ISO 9296
08/P41	ECMA 74
08/P42	ECMA 109
08/P44	ISO 354
08/P46	ISO 3741
08/P47	ISO 3742
08/P48	ISO 7779
08/P51	ISO 6926
08/P56	ANSI S12.35
08/P57	ANSI S12.34

NVLAP LAB CODE 100325-0

City of San Jose, Materials Testing Laboratory

Central Service Yard
1661 Senter Road, Building A
San Jose, CA 95112
Contact: Mr. Gary Fones
Phone: 408-998-6012
Fax: 408-971-4880
E-Mail: Gary.Fones@ci.sj.ca.us

Construction Materials Testing

Accreditation Valid Through: December 31, 2002

NVLAP Code	*Designation*
Aggregates	
02/A03	ASTM C29
02/A04	ASTM C40
02/A07	ASTM C117
02/A09	ASTM C127
02/A10	ASTM C128
02/A11	ASTM C131
02/A12	ASTM C136
02/A13	ASTM C142
02/A15	ASTM D75
02/A16	ASTM D2419
02/A44	ASTM C566
Cement	
02/A17	ASTM C109
02/A22	ASTM C183
02/A52	ASTM C1019
Concrete	
02/A01	ASTM C39
02/A02	ASTM C617
02/A40	ASTM C78
02/A41	ASTM C192
02/A42	ASTM C360
02/A43	ASTM C1064
02/A45	ASTM C42
02/G01	ASTM C31/C172/C143/C138/C231
02/G02	ASTM C173
Road and Paving Materials	
02/M01	ASTM D5
02/M03	ASTM D140
02/M05	ASTM D244
02/M07	ASTM D546
02/M08	ASTM D979
02/M09	ASTM D1074
02/M11	ASTM D1188
02/M12	ASTM D1559
02/M13	ASTM D1560
02/M14	ASTM D1561
02/M15	ASTM D1856
02/M16	ASTM D2042
02/M18	ASTM D2171
02/M19	ASTM D2172
02/M20	ASTM D2872
02/M24	ASTM D2041
02/M25	ASTM D2726
Soil and Rock	
02/L01	ASTM D4220
02/L02	ASTM D422
02/L05	ASTM D854
02/L06	ASTM D1140
02/L08	ASTM D1557
02/L12	ASTM D2168
02/L13	ASTM D2216
02/L14	ASTM D2217
02/L16	ASTM D2487
02/L17	ASTM D2488
02/L20	ASTM D4318
02/L23	ASTM D2922
02/L25	ASTM D3017
02/L47	ASTM D2844
Standard Practices	
02/A38	ASTM E329
02/A39	ASTM C1077
02/L32	ASTM D3740
02/M26	ASTM D3666

NVLAP LAB CODE 100339-0

EMC Corporation

4400 Computer Drive
Westboro, MA 01580
Contact: Mr. Joseph DeMonaco
Phone: 508-898-6051
Fax: 508-898-7729
E-Mail: Demonaco_Joe@emc.com

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: December 31, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

NVLAP LAB CODE 100340-0

Fairway Testing Company, Inc.

Smith Street
P.O. Box 578
Stony Point, NY 10980
Contact: Mr. Patsy J. Aguanno
Phone: 845-942-2088
Fax: 845-942-0995
E-Mail: fairwaytesting@spyral.net

Construction Materials Testing

Accreditation Valid Through: September 30, 2002

NVLAP Code	*Designation*
Aggregates	
02/A03	ASTM C29
02/A04	ASTM C40
02/A06	ASTM C88
02/A07	ASTM C117
02/A08	ASTM C123
02/A09	ASTM C127
02/A10	ASTM C128
02/A12	ASTM C136
02/A13	ASTM C142
02/A15	ASTM D75
02/A16	ASTM D2419
02/A44	ASTM C566
Concrete	
02/A01	ASTM C39
02/A02	ASTM C617
02/A40	ASTM C78
02/A41	ASTM C192
02/A43	ASTM C1064
02/G01	ASTM C31/C172/C143/C138/C231
02/G02	ASTM C173
Road and Paving Materials	
02/M01	ASTM D5
02/M07	ASTM D546
02/M08	ASTM D979
02/M11	ASTM D1188
02/M12	ASTM D1559
02/M15	ASTM D1856
02/M19	ASTM D2172
02/M24	ASTM D2041
02/M25	ASTM D2726
Soil and Rock	
02/L01	ASTM D4220
02/L02	ASTM D422
02/L04	ASTM D698
02/L05	ASTM D854
02/L06	ASTM D1140
02/L07	ASTM D1556
02/L08	ASTM D1557
02/L13	ASTM D2216
02/L16	ASTM D2487
02/L17	ASTM D2488
02/L20	ASTM D4318
02/L21	ASTM D2434
02/L23	ASTM D2922
02/L29	Corps of Engineers - Manual EM-1110-2-1906, Appendix VII, Permeability of Fine Grained Soils Using a Triaxial Apparatus
Standard Practices	
02/A38	ASTM E329
02/A39	ASTM C1077
02/L32	ASTM D3740
02/M26	ASTM D3666
Steel Materials	
02/S02	ASTM A370 (Sec. 14)/E190
02/S07	ASTM E709
02/S08	ASTM E165

NVLAP LAB CODE 100347-0

National Technical Systems

1146 Massachusetts Avenue
Boxborough, MA 01719
Contact: Mr. Charles Nasser
Phone: 978-266-1001
Fax: 978-266-1073
E-Mail: charlie@ntscorp.com
URL: http://www.ntscorp.com

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: March 31, 2002

NVLAP Code	*Designation*
MIL-STD-462 : Conducted Emissions:	
12/A01	MIL-STD-462 Method CE01
12/A04	MIL-STD-462 Method CE02
12/A06	MIL-STD-462 Method CE03
12/A08	MIL-STD-462 Method CE04
12/A12	MIL-STD-462 Method CE07
MIL-STD-462 : Conducted Susceptibility:	
12/B01	MIL-STD-462 Method CS01
12/B02	MIL-STD-462 Method CS02
12/B05	MIL-STD-462 Method CS06
12/B07	MIL-STD-462 Method CS09
MIL-STD-462 : Radiated Emissions:	
12/D01	MIL-STD-462 Method RE01
12/D02	MIL-STD-462 Method RE02
MIL-STD-462 : Radiated Susceptibility:	
12/E01	MIL-STD-462 Method RS01
12/E02	MIL-STD-462 Method RS02
12/E03	MIL-STD-462 Method RS03 (Consult laboratory for field strengths available)
12/E04	MIL-STD-462 Method RS03 employing RADHAZ procedures for high level testing (Consult laboratory for field strengths available)
12/E07	MIL-STD-462 Method RS06

NVLAP LAB CODE 100374-0

Aearo Company, E·A·RCAL Acoustical Laboratory

7911 Zionsville Road
Indianapolis, IN 46268-1657
Contact: Mr. Elliott H. Berger
Phone: 317-692-3031
Fax: 317-692-3116
E-Mail: eberger@compuserve.com
URL: http://www.e-a-r.com

Acoustical Testing Services

Accreditation Valid Through: December 31, 2002

NVLAP Code	*Designation*
08/P26	ANSI S3.19 (ANSI S3.19-1974)
08/P27	ANSI S12.6

NVLAP LAB CODE 100382-0

Eaton E3 Laboratory

26201 Northwestern Highway
P.O. Box 766
Southfield, MI 48037-0766
Contact: Mr. Kimball Williams
Phone: 248-354-2845
Fax: 248-208-2018
E-Mail: k.williams@ieee.org
URL: http://www.eaton.com/emc

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: June 30, 2002

NVLAP Code	*Designation*

MIL-STD-462 : Conducted Emissions:

12/A01	MIL-STD-462 Method CE01
12/A04	MIL-STD-462 Method CE02
12/A06	MIL-STD-462 Method CE03
12/A08	MIL-STD-462 Method CE04
12/A12	MIL-STD-462 Method CE07
12/A13	MIL-STD-462 Version D Method CE101
12/A14	MIL-STD-462 Version D Method CE102
12/A16	MIL-STD-461 Version E Method CE101
12/A17	MIL-STD-461 Version E Method CE102

MIL-STD-462 : Conducted Susceptibility:

12/B01	MIL-STD-462 Method CS01
12/B02	MIL-STD-462 Method CS02
12/B05	MIL-STD-462 Method CS06
12/B07	MIL-STD-462 Method CS09
12/B12	MIL-STD-462 Version D Method CS101
12/B17	MIL-STD-462 Version D Method CS114
12/B20	MIL-STD-461 Version E Method CS101
12/B25	MIL-STD-461 Version E Method CS114

MIL-STD-462 : Radiated Emissions:

12/D01	MIL-STD-462 Method RE01
12/D02	MIL-STD-462 Method RE02
12/D04	MIL-STD-462 Version D Method RE101
12/D05	MIL-STD-462 Version D Method RE102
12/D07	MIL-STD-461 Version E Method RE101
12/D08	MIL-STD-461 Version E Method RE102

MIL-STD-462 : Radiated Susceptibility:

12/E01	MIL-STD-462 Method RS01
12/E02	MIL-STD-462 Method RS02
12/E03	MIL-STD-462 Method RS03 (Consult laboratory for field strengths available)
12/E04	MIL-STD-462 Method RS03 employing RADHAZ procedures for high level testing (Consult laboratory for field strengths available)
12/E07	MIL-STD-462 Method RS06
12/E08	MIL-STD-462 Version D Method RS101
12/E09	MIL-STD-462 Version D Method RS103
12/E11	MIL-STD-461 Version E Method RS101
12/E12	MIL-STD-461 Version E Method RS103

NVLAP LAB CODE 100396-0

Criterion Technology Corp.

1350 County Road 16
P.O. Box 489
Rollinsville, CO 80474
Contact: Mr. Louis W. Schornack
Phone: 303-258-0100
Fax: 303-258-0775
E-Mail: lschornack@criteriontech.com
URL: www.criteriontech.com

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: March 31, 2002

NVLAP Code	*Designation*

Emissions Test Methods:

12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

NVLAP LAB CODE 100398-0

GE Lighting- Product Testing

1975 Noble Road
Nela Park
Cleveland, OH 44112-6300
Contact: Mr. Lawrence Mead
Phone: 216-266-5520
Fax: 216-266-3503
E-Mail: lawrence.mead@lighting.ge.com

Energy Efficient Lighting Products

Accreditation Valid Through: March 31, 2002

NVLAP Code	*Designation*
Color Measurements	
22/C01	IES LM-58
Electrical Measurements	
22/E01	IES LM-9
22/E02	IES LM-45
22/E03	IES LM-51
22/E04	IES LM-66
22/E05	ANSI-C78.375
Life Tests	
22/L01	IES LM-40
22/L03	IES LM-49
22/L04	IES LM-65
Photometric Measurements	
22/P01a	IES LM-9 (Total Flux)
22/P01b	IES LM-9 (Intensity)
22/P02a	IES LM-20 (Total Flux)
22/P02b	IES LM-20 (Intensity)
22/P03a	IES LM-45 (Total Flux)
22/P03b	IES LM-45 (Intensity)
22/P04a	IES LM-51 (Total Flux)
22/P05a	IES LM-66 (Total Flux)
22/P05b	IES LM-66 (Intensity)

NVLAP LAB CODE 100399-0

Philips Lighting Corporate Calibration & Standards Laboratory

3861 South Ninth Street
Salina, KS 67401
Contact: Mr. Andrew D. Jackson
Phone: 785-822-1540
Fax: 785-822-1510
E-Mail: andy.jackson@philips.com

Energy Efficient Lighting Products

Accreditation Valid Through: June 30, 2002

NVLAP Code	*Designation*
Color Measurements	
22/C01	IES LM-58
Electrical Measurements	
22/E01	IES LM-9
22/E02	IES LM-45
22/E03	IES LM-51
22/E04	IES LM-66
22/E05	ANSI-C78.375
Life Tests	
22/L01	IES LM-40
22/L03	IES LM-49
22/L04	IES LM-65
Photometric Measurements	
22/P01a	IES LM-9 (Total Flux)
22/P02a	IES LM-20 (Total Flux)
22/P02b	IES LM-20 (Intensity)
22/P03a	IES LM-45 (Total Flux)
22/P03b	IES LM-45 (Intensity)
22/P04a	IES LM-51 (Total Flux)
22/P04b	IES LM-51 (Intensity)
22/P05a	IES LM-66 (Total Flux)
22/P05b	IES LM-66 (Intensity)

NVLAP LAB CODE 100402-0

Intertek Testing Services NA Inc.

3933 U.S. Route 11
Cortland, NY 13045-0950
Contact: Mr. John Sabelli
Phone: 607-758-6382
Fax: 607-753-0439
E-Mail: jsabelli@etlsemko.com
URL: http://www.etlsemko.com

Energy Efficient Lighting Products

Accreditation Valid Through: September 30, 2002

NVLAP Code	*Designation*
Color Measurements	
22/C01	IES LM-58
Electrical Measurements	
22/E01	IES LM-9
22/E02	IES LM-45
22/E03	IES LM-51
22/E04	IES LM-66
22/E05	ANSI-C78.375
22/E06	ANSI-C78.386
22/E07	ANSI-C78.387
22/E08	ANSI-C78.388
Life Tests	
22/L01	IES LM-40
22/L03	IES LM-49
22/L04	IES LM-65
Photometric Measurements	
22/P01a	IES LM-9 (Total Flux)
22/P02a	IES LM-20 (Total Flux)
22/P02b	IES LM-20 (Intensity)
22/P03a	IES LM-45 (Total Flux)
22/P03b	IES LM-45 (Intensity)
22/P04a	IES LM-51 (Total Flux)
22/P05a	IES LM-66 (Total Flux)
22/P05b	IES LM-66 (Intensity)

NVLAP LAB CODE 100403-0

Osram Sylvania, Applications & Measurements Laboratory

71 Cherry Hill Dr.
Beverly, MA 01915
Contact: Dr. Ronald O. Daubach
Phone: 508-750-1593
Fax: 508-750-1794
E-Mail: ronald.daubach@sylvania.com

Energy Efficient Lighting Products

Accreditation Valid Through: June 30, 2002

NVLAP Code	*Designation*
Color Measurements	
22/C01	IES LM-58
Electrical Measurements	
22/E01	IES LM-9
22/E02	IES LM-45
22/E03	IES LM-51
22/E04	IES LM-66
22/E05	ANSI-C78.375
22/E06	ANSI-C78.386
22/E07	ANSI-C78.387
22/E08	ANSI-C78.388
Life Tests	
22/L01	IES LM-40
22/L02	IES LM-47
22/L03	IES LM-49
22/L04	IES LM-65
Photometric Measurements	
22/P01a	IES LM-9 (Total Flux)
22/P01b	IES LM-9 (Intensity)
22/P02a	IES LM-20 (Total Flux)
22/P02b	IES LM-20 (Intensity)
22/P03a	IES LM-45 (Total Flux)
22/P03b	IES LM-45 (Intensity)
22/P04a	IES LM-51 (Total Flux)
22/P04b	IES LM-51 (Intensity)
22/P05a	IES LM-66 (Total Flux)
22/P05b	IES LM-66 (Intensity)

NVLAP LAB CODE 100404-0

Industrial Acoustics Company, Inc., Aero-Acoustics Laboratory

1160 Commerce Avenue
Bronx, NY 10462
Contact: Mr. Jon Weinstein
Phone: 718-931-8000
Fax: 718-863-1138
E-Mail: jonw@industrialacoustics.com
URL: http://www.industrialacoustics.com

Acoustical Testing Services

Accreditation Valid Through: June 30, 2002

NVLAP Code	*Designation*
08/P02	ASTM C384
08/P03	ASTM C423
08/P06	ASTM E90
08/P08	ASTM E596
08/P30	ASTM E1408
08/P36	ASTM E477
08/P44	ISO 354
08/P45	ISO 140, Part 3

NVLAP LAB CODE 100405-0

General Dynamics Decision Systems

8201 E. McDowell Road
Scottsdale, AZ 85252
Contact: Mr. Dwayne R. Awerkamp
Phone: 480-441-3138
Fax: 480-441-3625
E-Mail: p09969@gd-decisionsystems.com

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: September 30, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548
Immunity Test Methods:	
12/I01	IEC 61000-4-2 (1995) and Amendment 1 (1998): Electrostatic Discharge Immunity Test
12/I02	IEC 61000-4-3 (1995) and Amendment 1 (1998): Radiated, Radio-Frequency Electromagnetic Field Immunity Test
12/I03	IEC 61000-4-4 (1995): Electrical Fast Transient/Burst Immunity Test
12/I04	IEC 61000-4-5 (1995): Surge Immunity Test
12/I05	IEC 61000-4-6 (1996): Immunity to Conducted Disturbances, Induced Radio-Frequency Fields
12/I06	IEC 61000-4-8 (1993): Power Frequency Magnetic Field Immunity Test
12/I07	IEC 61000-4-11 (1994): Voltage Dips, Short Interruptions and Voltage Variations Immunity Tests

MIL-STD-462 : Conducted Emissions:

12/A01	MIL-STD-462 Method CE01
12/A04	MIL-STD-462 Method CE02
12/A06	MIL-STD-462 Method CE03
12/A08	MIL-STD-462 Method CE04
12/A10	MIL-STD-462 Method CE06
12/A12	MIL-STD-462 Method CE07
12/A13	MIL-STD-462 Version D Method CE101
12/A14	MIL-STD-462 Version D Method CE102
12/A15	MIL-STD-462 Version D Method CE106
12/A16	MIL-STD-461 Version E Method CE101
12/A17	MIL-STD-461 Version E Method CE102
12/A18	MIL-STD-461 Version E Method CE106

MIL-STD-462 : Conducted Susceptibility:

12/B01	MIL-STD-462 Method CS01
12/B02	MIL-STD-462 Method CS02
12/B04	MIL-STD-462 Method CS03/CS04/CS05/CS08
12/B05	MIL-STD-462 Method CS06
12/B06	MIL-STD-462 Method CS07
12/B07	MIL-STD-462 Method CS09
12/B08	MIL-STD-462 Method CS10
12/B09	MIL-STD-462 Method CS11
12/B10	MIL-STD-462 Method CS12
12/B11	MIL-STD-462 Method CS13
12/B12	MIL-STD-462 Version D Method CS101
12/B13	MIL-STD-462 Version D Method CS103
12/B14	MIL-STD-462 Version D Method CS104
12/B15	MIL-STD-462 Version D Method CS105
12/B16	MIL-STD-462 Version D Method CS109
12/B17	MIL-STD-462 Version D Method CS114
12/B19	MIL-STD-462 Version D Method CS116
12/B20	MIL-STD-461 Version E Method CS101
12/B21	MIL-STD-461 Version E Method CS103
12/B22	MIL-STD-461 Version E Method CS104
12/B23	MIL-STD-461 Version E Method CS105
12/B24	MIL-STD-461 Version E Method CS109
12/B25	MIL-STD-461 Version E Method CS114
12/B27	MIL-STD-461 Version E Method CS116

MIL-STD-462 : Radiated Emissions:

12/D01	MIL-STD-462 Method RE01
12/D02	MIL-STD-462 Method RE02
12/D03	MIL-STD-462 Method RE03
12/D04	MIL-STD-462 Version D Method RE101
12/D05	MIL-STD-462 Version D Method RE102
12/D06	MIL-STD-462 Version D Method RE103
12/D07	MIL-STD-461 Version E Method RE101
12/D08	MIL-STD-461 Version E Method RE102
12/D09	MIL-STD-461 Version E Method RE103

MIL-STD-462 : Radiated Susceptibility:

12/E01	MIL-STD-462 Method RS01
12/E02	MIL-STD-462 Method RS02
12/E03	MIL-STD-462 Method RS03 (Consult laboratory for field strengths available)
12/E04	MIL-STD-462 Method RS03 employing RADHAZ procedures for high level testing (Consult laboratory for field strengths available)
12/E05	MIL-STD-462 Method RS05
12/E07	MIL-STD-462 Method RS06
12/E09	MIL-STD-462 Version D Method RS103
12/E10	MIL-STD-462 Version D Method RS105
12/E11	MIL-STD-461 Version E Method RS101
12/E12	MIL-STD-461 Version E Method RS103
12/E13	MIL-STD-461 Version E Method RS105

NVLAP LAB CODE 100406-0

Inland Foundation Engineering, Inc.

1310 South Santa Fe Avenue
P.O. Box 937
San Jacinto, CA 92581-0937
Contact: Mr. Donald O. Swenson
Phone: 909-654-1555
Fax: 909-654-0551

Construction Materials Testing

Accreditation Valid Through: March 31, 2002

NVLAP Code	*Designation*
Aggregates	
02/A04	ASTM C40
02/A05	ASTM C87
02/A06	ASTM C88
02/A07	ASTM C117
02/A08	ASTM C123
02/A09	ASTM C127
02/A10	ASTM C128
02/A11	ASTM C131
02/A12	ASTM C136
02/A13	ASTM C142
02/A14	ASTM C289
02/A15	ASTM D75
02/A16	ASTM D2419
02/A44	ASTM C566
02/A46	ASTM C535
Concrete	
02/A01	ASTM C39
02/A02	ASTM C617
02/A43	ASTM C1064
02/A45	ASTM C42
02/G01	ASTM C31/C172/C143/C138/C231
Road and Paving Materials	
02/M03	ASTM D140
02/M07	ASTM D546
02/M08	ASTM D979
02/M11	ASTM D1188
02/M12	ASTM D1559
02/M14	ASTM D1561
02/M19	ASTM D2172
02/M24	ASTM D2041
Soil and Rock	
02/L01	ASTM D4220
02/L02	ASTM D422
02/L04	ASTM D698
02/L05	ASTM D854
02/L06	ASTM D1140
02/L07	ASTM D1556
02/L08	ASTM D1557
02/L13	ASTM D2216

02/L17	ASTM D2488
02/L18	ASTM D3080
02/L20	ASTM D4318
02/L21	ASTM D2434
02/L22	ASTM D2850
02/L23	ASTM D2922
02/L25	ASTM D3017
02/L47	ASTM D2844

Standard Practices

02/A38	ASTM E329
02/A39	ASTM C1077
02/L32	ASTM D3740
02/M26	ASTM D3666

NVLAP LAB CODE 100408-0

NAWCAD 5.1.7.4. EMI Lab

48298 Shaw Road, Unit 4, Bldg. 1461
Patuxent River, MD 20670-1900
Contact: Mr. Lance Pearce
Phone: 301-757-2508
Fax: 301-342-5390
E-Mail: peacelj@navair.navy.mil

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: March 31, 2002

MIL-STD-462 : Conducted Emissions:

NVLAP Code	*Designation*
12/A01	MIL-STD-462 Method CE01
12/A04	MIL-STD-462 Method CE02
12/A06	MIL-STD-462 Method CE03
12/A08	MIL-STD-462 Method CE04
12/A10	MIL-STD-462 Method CE06
12/A13	MIL-STD-462 Version D Method CE101
12/A14	MIL-STD-462 Version D Method CE102
12/A15	MIL-STD-462 Version D Method CE106
12/A16	MIL-STD-461 Version E Method CE101
12/A17	MIL-STD-461 Version E Method CE102
12/A18	MIL-STD-461 Version E Method CE106

MIL-STD-462 : Conducted Susceptibility:

12/B01	MIL-STD-462 Method CS01
12/B02	MIL-STD-462 Method CS02
12/B04	MIL-STD-462 Method CS03/CS04/CS05/CS08
12/B05	MIL-STD-462 Method CS06
12/B08	MIL-STD-462 Method CS10
12/B09	MIL-STD-462 Method CS11
12/B12	MIL-STD-462 Version D Method CS101
12/B13	MIL-STD-462 Version D Method CS103
12/B14	MIL-STD-462 Version D Method CS104
12/B15	MIL-STD-462 Version D Method CS105
12/B17	MIL-STD-462 Version D Method CS114
12/B18	MIL-STD-462 Version D Method CS115
12/B19	MIL-STD-462 Version D Method CS116
12/B20	MIL-STD-461 Version E Method CS101
12/B21	MIL-STD-461 Version E Method CS103
12/B22	MIL-STD-461 Version E Method CS104
12/B23	MIL-STD-461 Version E Method CS105
12/B25	MIL-STD-461 Version E Method CS114
12/B26	MIL-STD-461 Version E Method CS115

MIL-STD-462 : Radiated Emissions:

12/D01	MIL-STD-462 Method RE01
12/D02	MIL-STD-462 Method RE02
12/D03	MIL-STD-462 Method RE03
12/D04	MIL-STD-462 Version D Method RE101
12/D05	MIL-STD-462 Version D Method RE102
12/D06	MIL-STD-462 Version D Method RE103
12/D07	MIL-STD-461 Version E Method RE101
12/D08	MIL-STD-461 Version E Method RE102
12/D09	MIL-STD-461 Version E Method RE103

MIL-STD-462 : Radiated Susceptibility:

12/E01	MIL-STD-462 Method RS01
12/E02	MIL-STD-462 Method RS02
12/E03	MIL-STD-462 Method RS03 (Consult laboratory for field strengths available)
12/E04	MIL-STD-462 Method RS03 employing RADHAZ procedures for high level testing (Consult laboratory for field strengths available)
12/E08	MIL-STD-462 Version D Method RS101
12/E09	MIL-STD-462 Version D Method RS103
12/E11	MIL-STD-461 Version E Method RS101
12/E12	MIL-STD-461 Version E Method RS103

NVLAP LAB CODE 100411-0

Sanmina Homologation Services

355 E. Trimble Road
San Jose, CA 95131
Contact: Mr. John Shinn, P.E.
Phone: 408-474-1321
Fax: 408-474-1318
E-Mail: john.shinn@samina.com

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: March 31, 2002

Emissions Test Methods:

NVLAP Code	*Designation*
12/CIS22	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

(See 'How To Use This Directory' on page 7.)

Safety Test Methods:

12/T41	ACA TS-001
12/T50	AS/NZS 3260

Telecommunications Test Methods:

12/CS03	CS-03
12/T01	Terminal Equipment Network Protection Standards, FCC Method - 47 CFR Part 68 - Analog and Digital
12/T01a	68.302 (Par. c,d,e,f) Environmental simulation; 68.304 Leakage current limit.; 68.306 Hazardous voltage limit.; 68.308 Signal power limit.; 68.310 Longitudinal balance limit.; 68.312 On-hook impedance limit.; 68.314 Billing protection
12/T01b	68.316 Hearing Aid Compatibility: technical standards
12/T01c	68.302 Environmental simulation (Par. a,b)
12/T42	ACA TS-002
12/T43	ACA TS-003
12/T44	ACA TS-004
12/T45	ACA TS-006
12/T49	ACA TS-016

NVLAP LAB CODE 100413-0

Compaq Regulatory Compliance Engineering - East

200 Forest Street, Mail Stop MRO1-D
Marlboro, MA 01752-3085
Contact: Ms. Diana Montvitt-Jones
Phone: 508-467-2851
Fax: 508-467-2846
E-Mail: diana.montvitt@compaq.com

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: March 31, 2002

Emissions Test Methods:

NVLAP Code	*Designation*
12/CIS22	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

NVLAP LAB CODE 100414-0

Underwriters Laboratories Inc.

333 Pfingsten Road
Northbrook, IL 60062-2096
Contact: Mr. Rick A. Titus
Phone: 847-272-8800 x43281
Fax: 847-509-6321
E-Mail: Rick.A.Titus@us.ul.com
URL: http://www.ul.com

Thermal Insulation Materials

Accreditation Valid Through: December 31, 2002

NVLAP Code	*Designation*
Corrosiveness	
01/C01	ASTM C739 (Sec. 9)
01/C02	16 CFR-Part 1209.5
Flammability	
01/F02	ASTM E84
01/F07	16 CFR-Part 1209.6
01/F08	16 CFR-Part 1209.7
01/F09	ASTM C739 (Sec. 10) by ASTM E970
01/F10	ASTM C739 (Sec. 14)
Mass, Density, and Dimensional Stability	
01/D24	ASTM C739 (Sec. 12)
01/D26	16 CFR-Part 1209.4
01/D27	ASTM C739 (Sec. 8)
Related Material Properties	
01/V05	ASTM C739 (Sec. 11)
Thermal Resistance	
01/T06	ASTM C518
01/T10	ASTM C687

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: December 31, 2002

Emissions Test Methods:

NVLAP Code	*Designation*
12/CIS14	CISPR 14-1 (March 30, 2000): Limits and methods of measurement of radio interference characteristics of household electrical appliances, portable tools and similar electrical apparatus - Part 1: Emissions
12/CIS14a	EN 55014-1 (1993) with Amendments A1 (1997) & A2 (1999)
12/CIS14b	AS/NZS 1044 (1995)
12/CIS14c	CNS 13783-1
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference

	Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548
Immunity Test Methods:	
12/I01	IEC 61000-4-2 (1995) and Amendment 1 (1998): Electrostatic Discharge Immunity Test
12/I02	IEC 61000-4-3 (1995) and Amendment 1 (1998): Radiated, Radio-Frequency Electromagnetic Field Immunity Test
12/I03	IEC 61000-4-4 (1995): Electrical Fast Transient/Burst Immunity Test
12/I04	IEC 61000-4-5 (1995): Surge Immunity Test
12/I05	IEC 61000-4-6 (1996): Immunity to Conducted Disturbances, Induced Radio-Frequency Fields
12/I06	IEC 61000-4-8 (1993): Power Frequency Magnetic Field Immunity Test
12/I07	IEC 61000-4-11 (1994): Voltage Dips, Short Interruptions and Voltage Variations Immunity Tests
Safety Test Methods:	
12/T41	ACA TS-001
12/T50	AS/NZS 3260

NVLAP LAB CODE 100416-0

SGS U.S. Testing Company, Inc.

1341 North 108th East Avenue
Tulsa, OK 74116-5637
Contact: Mr. Dale E. Holloway
Phone: 918-437-8333
Fax: 918-437-8487
E-Mail: dale_holloway@sgsgroup.com

Thermal Insulation Materials

Accreditation Valid Through: December 31, 2002

NVLAP Code	*Designation*
Corrosiveness	
01/C01	ASTM C739 (Sec. 9)
01/C02	16 CFR-Part 1209.5
Flammability	
01/F08	16 CFR-Part 1209.7
01/F10	ASTM C739 (Sec. 14)
Mass, Density, and Dimensional Stability	
01/D24	ASTM C739 (Sec. 12)
01/D26	16 CFR-Part 1209.4
01/D27	ASTM C739 (Sec. 8)
Related Material Properties	
01/V04	ASTM E96
01/V05	ASTM C739 (Sec. 11)
Strength	
01/S15	ASTM C421

Commercial Products Testing

Accreditation Valid Through: December 31, 2002

NVLAP Code	*Designation*
Plumbing	
19/F01	ASME A112.18.1M (Sec. 4.2.2.1 only)
19/F02	ASME A112.18.1M (Sec. 4.14) (ASSE 1016)
19/F03	ASME A112.18.1M (Sec. 5.2)
19/F04	ASME A112.18.1M (Sec. 5.4)
19/F05	ASME A112.18.1M (Sec. 5.5)
19/F06	ASME A112.18.1M (Sec. 5.6)
19/F07	ASME A112.18.1M (Sec. 5.7)
19/F08	ASME A112.18.1M (Sec. 5.8)
19/F10	ASME A112.18.1M (Sec. 5.3)
19/F11	ASME A112.18.1 (Sec. 6.4.2)
19/F12	ASME A112.18.1 (Sec. 6.7.2)
19/M01	ICC/ANSI A117.1 (Sec. 609, 610)
19/M02	ASME/ANSI A112.19.7M (Sec. 5, 7)
19/M03	ASME/ANSI A112.19.8M (Sec. 4, 5)
19/M04	ASTM F446
19/M05	ASTM F462
19/P01	ANSI Z124.1 (Sec. 4, 5, 6)
19/P02	ANSI Z124.2 (Sec. 4, 5, 6)
19/P03	ANSI Z124.3 (Sec. 4, 5, 6)
19/P03a	ANSI/ICPA-SS-1 (Sec. 4, 5, 6)
19/P04	ANSI Z124.4 (Sec. 4, 5)
19/P05	ANSI Z124.4 (Sec. 2.11) per ASME A112.19.6M (Sec. 7.1)
19/P06	ANSI/IAPMO Z124.6 (Sec. 4, 5, 6)
19/P07	ANSI/IAPMO Z124.8 (Sec. 4, 5)
19/U01	ASME/ANSI A112.18.3M (Sec. 12.1, 12.2)
19/V01	ASME A112.19.2M (Sec. 8.1)
19/V02	ASME A112.19.2M (Sec. 8.2)
19/V03	ASME A112.19.2M (Sec. 8.3)
19/V04	ASME A112.19.2M (Sec. 8.7)
19/V05	ASME A112.19.2M (Sec. 8.6)
19/V06	ASME A112.19.2M (Sec. 8.5)
19/W01	ASME A112.19.6 (Sec. 7.1.2)
19/W02	ASME A112.19.6 (Sec. 7.1.3)
19/W03	ASME A112.19.6 (Sec. 7.1.4)
19/W04	ASME A112.19.6 (Sec. 7.1.5)
19/W05	ASME A112.19.6 (Sec. 7.1.6)
19/W06	ASME A112.19.6 (Sec. 7.1.7)
19/W07	ASME A112.19.6 (Sec. 7.1.8)
19/W08	ASME A112.19.6 (Sec. 7.1.9)

NVLAP LAB CODE 100418-0

Composite Panel Association (CPA)

18928 Premiere Court
Gaithersburg, MD 20879-1569
Contact: Mr. Charlie Stout
Phone: 301-670-0604
Fax: 301-840-1252
E-Mail: cstout@cpamail.org

Wood Based Products

Accreditation Valid Through: September 30, 2002

NVLAP Code *Designation*

General Wood Products

23/G02	ASTM D1037 (Part A, Sec. 11-20)
23/G03	ASTM D1037 (Part A, Sec. 28-33)

Particleboard and Medium-Density Fiberboard

23/P02	ASTM D1037 (Part A, Sec. 61-67)
23/P03	ASTM D1037 (Part A, Sec. 68-73)
23/P05	ASTM D1037 (Part A, Sec. 100-106)
23/P06	ASTM D1037 (Part A, Sec. 107-110)
23/P08	ASTM D1037 (Part A, Sec. 126-127)
23/P09	ANSI/A208.1 (Sec. 3.4.4)
23/T01	ASTM E1333
23/T03	EN 120:92
23/T04	ASTM D5582
23/T05	ASTM D6007

NVLAP LAB CODE 100419-0

Test Site Services, Inc.

P.O. Box 766
Marlboro, MA 01752
Contact: Mr. Richard L. Wiedeman
Phone: 508-481-1684
Fax: 508-481-1684
E-Mail: slp@ma.ultranet.com
URL: http://testsiteservices.com

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: September 30, 2002

Emissions Test Methods:

NVLAP Code	*Designation*
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

NVLAP LAB CODE 100420-0

Timberco, Inc.- dba TECO

86305 College View Road
Eugene, OR 97405-9631
Contact: Mr. Darin Thompson
Phone: 541-746-8271
Fax: 541-747-1630
E-Mail: dthompson@pfs-teco.com

Wood Based Products

Accreditation Valid Through: December 31, 2002

General Wood Products

NVLAP Code	*Designation*
23/G01	ASTM D906 (CSA 0112.0-M Series 1977)
23/G02	ASTM D1037 (Part A, Sec. 11-20)
23/G03	ASTM D1037 (Part A, Sec. 28-33)
23/G04	ASTM D2395 (Method A)
23/G05	ASTM D2718
23/G06	ASTM D2719 (Method C)
23/G07	ASTM D3043 (Method C)
23/G08	ASTM D4442 (Method A)
23/G09	ASTM D4442 (Method B)
23/G10	ASTM E72 (Sec. 14)
23/G11	ASTM E72 (Sec. 15)
23/G12	ASTM E564
23/G18	ASTM D1761 (Sec. 41-52)
23/G20	ASTM E72 (Sec. 11, 17, 20)
23/G21	ASTM E72 (Sec. 13, 18, 21)
23/G23	ASTM E1803

Hardwood Plywood

23/H01	HP-1 (Sec. 4.3)
23/H02	HP-1 (Sec. 4.4)
23/H03	HP-1 (Sec. 4.6)
23/H04	ASTM E96

Particleboard and Medium-Density Fiberboard

23/P01	ASTM D1037 (Part A, Sec. 21-27)
23/P02	ASTM D1037 (Part A, Sec. 61-67)
23/P03	ASTM D1037 (Part A, Sec. 68-73)
23/P05	ASTM D1037 (Part A, Sec. 100-106)
23/P06	ASTM D1037 (Part A, Sec. 107-110)
23/P07	ASTM D1037 (Part A, Sec. 118-124)
23/P08	ASTM D1037 (Part A, Sec. 126-127)
23/P09	ANSI/A208.1 (Sec. 3.4.4)
23/T01	ASTM E1333
23/T02	FTM 1-83
23/T04	ASTM D5582

Sandwich Constructions

23/X02	ATSM C297

Structural Composite Lumber, Glulam, I-Joists, Laminated Veneer Lumber

23/J01	ASTM D143 (Sec. 8)
23/J02	ASTM D143 (Sec. 14)
23/J04	ASTM D198 (Sec. 4-11)
23/J06	ASTM D905 (CSA 0112.0-M Series 1977)
23/J07	ASTM D1037 (Part A, Sec. 87-90)
23/J08	ASTM D1101
23/J09	ASTM D1761 (Sec. 1-11)
23/J10	ASTM D2559 (Shear)

23/J11	ASTM D2559 (Delamination) (CSA 0112.0-M Series 1977)
23/J12	ASTM D4688
23/J13	AITC 200 (T106)
23/J14	AITC 200 (T107)
23/J15	AITC 200 (T110)
23/J16	AITC 200 (T114)
23/J17	AITC 200 (T116)
23/J21	ASTM D3535 (CSA 0112.0-M Series 1977)
23/J22	ASTM D5572
23/J23	ASTM D5751
Structural Use Panels	
23/S02	ASTM D3500 (Method B)
23/S03	ASTM D3501 (Method B)
23/S04	ASTM E661
23/S05	PS-1 (Sec. 4.5.2)
23/S06	PS-1 (Sec. 4.5.3) (CAN/CSA-0325.1-88)
23/S07	PS-2 (Sec. 6.4.1) (CAN/CSA-0325.1-88)
23/S08	PS-2 (Sec. 6.4.2) (CAN/CSA-0325.1-88)
23/S09	PS-2 (Sec. 6.4.4) (CAN/CSA-0325.1-88)
23/S10	PS-2 (Sec. 6.4.7) (CAN/CSA-0325.1-88)
23/S11	PS-2 (Sec. 6.4.8) (CAN/CSA-0325.1-88)
23/S12	PS-2 (Sec. 6.4.9) (CAN/CSA-0325.1-88)
23/S13	PS-2 (Sec. 6.4.17) (CAN/CSA-0325.1-88)
23/S14	PS-2 (Sec. 6.4.18) (CAN/CSA-0325.1-88)
23/S15	PS-2 (Sec. 6.4.19) (Supplement No.1-92 to CAN/CSA-0325.1-88)
23/S16	PS-2 (Sec. 6.4.20) (Supplement No.1-92 to CAN/CSA-0325.1-88)

NVLAP LAB CODE 100421-0

PFS Corporation

2402 Daniels Street
Madison, WI 53718-6798
Contact: Mr. James P. VanSchoyck
Phone: 608-221-3361
Fax: 608-223-5560
E-Mail: JVanSchoyck@pfs-teco.com
URL: http://www.pfscorporation.com

Wood Based Products

Accreditation Valid Through: December 31, 2002

NVLAP Code	*Designation*
General Wood Products	
23/G01	ASTM D906 (CSA 0112.0-M Series 1977)
23/G02	ASTM D1037 (Part A, Sec. 11-20)
23/G03	ASTM D1037 (Part A, Sec. 28-33)
23/G04	ASTM D2395 (Method A)
23/G05	ASTM D2718
23/G06	ASTM D2719 (Method C)
23/G08	ASTM D4442 (Method A)
23/G09	ASTM D4442 (Method B)
23/G10	ASTM E72 (Sec. 14)
23/G11	ASTM E72 (Sec. 15)
23/G12	ASTM E564
23/G13	ASTM E695
23/G14	AFG-01-84 (Sec. 3.1)
23/G15	AFG-01-84 (Sec. 3.2)
23/G16	ASTM E489
23/G17	ASTM E767
23/G18	ASTM D1761 (Sec. 41-52)
23/G19	ASTM E72 (Sec. 9, 10)
23/G20	ASTM E72 (Sec. 11, 17, 20)
23/G21	ASTM E72 (Sec. 13, 18, 21)
23/G22	ASTM D5764
23/G23	ASTM E1803
Hardwood Plywood	
23/H01	HP-1 (Sec. 4.3)
23/H02	HP-1 (Sec. 4.4)
23/H03	HP-1 (Sec. 4.6)
23/H04	ASTM E96
Particleboard and Medium-Density Fiberboard	
23/P01	ASTM D1037 (Part A, Sec. 21-27)
23/P02	ASTM D1037 (Part A, Sec. 61-67)
23/P03	ASTM D1037 (Part A, Sec. 68-73)
23/P04	ASTM D1037 (Part A, Sec. 81-86)
23/P05	ASTM D1037 (Part A, Sec. 100-106)
23/P06	ASTM D1037 (Part A, Sec. 107-110)
23/P07	ASTM D1037 (Part A, Sec. 118-124)
23/P08	ASTM D1037 (Part A, Sec. 126-127)
23/P09	ANSI/A208.1 (Sec. 3.4.4)
23/T01	ASTM E1333
23/T02	FTM 1-83
23/T04	ASTM D5582
Sandwich Constructions	
23/X01	ASTM C273
23/X02	ATSM C297
23/X03	ASTM C365 (Method A)
23/X04	ASTM C393
23/X05	ASTM C480
23/X06	ASTM C481
23/X07	ASTM D1183
Structural Composite Lumber, Glulam, I-Joists, Laminated Veneer Lumber	
23/J01	ASTM D143 (Sec. 8)
23/J02	ASTM D143 (Sec. 14)
23/J03	ASTM D143 (Sec. 16)
23/J04	ASTM D198 (Sec. 4-11)
23/J06	ASTM D905 (CSA 0112.0-M Series 1977)
23/J07	ASTM D1037 (Part A, Sec. 87-90)
23/J08	ASTM D1101
23/J09	ASTM D1761 (Sec. 1-11)
23/J10	ASTM D2559 (Shear)
23/J11	ASTM D2559 (Delamination) (CSA 0112.0-M Series 1977)
23/J12	ASTM D4688
23/J13	AITC 200 (T106)
23/J14	AITC 200 (T107)
23/J15	AITC 200 (T110)
23/J16	AITC 200 (T114)
23/J17	AITC 200 (T116)
23/J21	ASTM D3535 (CSA 0112.0-M Series 1977)
Structural Use Panels	
23/S01	ASTM D3044
23/S03	ASTM D3501 (Method B)
23/S04	ASTM E661
23/S05	PS-1 (Sec. 4.5.2)
23/S06	PS-1 (Sec. 4.5.3) (CAN/CSA-0325.1-88)
23/S07	PS-2 (Sec. 6.4.1) (CAN/CSA-0325.1-88)
23/S08	PS-2 (Sec. 6.4.2) (CAN/CSA-0325.1-88)
23/S09	PS-2 (Sec. 6.4.4) (CAN/CSA-0325.1-88)

23/S10	PS-2 (Sec. 6.4.7) (CAN/CSA-0325.1-88)
23/S11	PS-2 (Sec. 6.4.8) (CAN/CSA-0325.1-88)
23/S12	PS-2 (Sec. 6.4.9) (CAN/CSA-0325.1-88)
23/S13	PS-2 (Sec. 6.4.17) (CAN/CSA-0325.1-88)
23/S14	PS-2 (Sec. 6.4.18) (CAN/CSA-0325.1-88)
23/S15	PS-2 (Sec. 6.4.19) (Supplement No.1-92 to CAN/CSA-0325.1-88)
23/S16	PS-2 (Sec. 6.4.20) (Supplement No.1-92 to CAN/CSA-0325.1-88)

NVLAP LAB CODE 100423-0

APA - The Engineered Wood Association Research Center

7011 South 19th Street
P.O. Box 11700
Tacoma, WA 98411-0700
Contact: Mr. Thomas G. Williamson
Phone: 253-565-6600
Fax: 253-565-7265
E-Mail: tom.williamson@apawood.org
URL: http://www.apawood.org

Wood Based Products

Accreditation Valid Through: December 31, 2002

NVLAP Code	*Designation*
General Wood Products	
23/G04	ASTM D2395 (Method A)
23/G05	ASTM D2718
23/G06	ASTM D2719 (Method C)
23/G07	ASTM D3043 (Method C)
23/G09	ASTM D4442 (Method B)
23/G10	ASTM E72 (Sec. 14)
23/G11	ASTM E72 (Sec. 15)
23/G22	ASTM D5764
Structural Composite Lumber, Glulam, I-Joists, Laminated Veneer Lumber	
23/J02	ASTM D143 (Sec. 14)
23/J04	ASTM D198 (Sec. 4-11)
23/J05	ASTM D198 (Sec. 28-35)
23/J09	ASTM D1761 (Sec. 1-11)
23/J10	ASTM D2559 (Shear)
23/J11	ASTM D2559 (Delamination) (CSA 0112.0-M Series 1977)
23/J12	ASTM D4688
23/J14	AITC 200 (T107)
23/J15	AITC 200 (T110)
23/J16	AITC 200 (T114)
23/J17	AITC 200 (T116)
23/J18	AITC 200 (T119)
23/J19	AITC 200 (T123)
Structural Use Panels	
23/S01	ASTM D3044
23/S02	ASTM D3500 (Method B)
23/S03	ASTM D3501 (Method B)
23/S04	ASTM E661
23/S07	PS-2 (Sec. 6.4.1) (CAN/CSA-0325.1-88)
23/S08	PS-2 (Sec. 6.4.2) (CAN/CSA-0325.1-88)
23/S09	PS-2 (Sec. 6.4.4) (CAN/CSA-0325.1-88)
23/S10	PS-2 (Sec. 6.4.7) (CAN/CSA-0325.1-88)
23/S11	PS-2 (Sec. 6.4.8) (CAN/CSA-0325.1-88)
23/S12	PS-2 (Sec. 6.4.9) (CAN/CSA-0325.1-88)
23/S13	PS-2 (Sec. 6.4.17) (CAN/CSA-0325.1-88)
23/S14	PS-2 (Sec. 6.4.18) (CAN/CSA-0325.1-88)
23/S15	PS-2 (Sec. 6.4.19) (Supplement No.1-92 to CAN/CSA-0325.1-88)
23/S16	PS-2 (Sec. 6.4.20) (Supplement No.1-92 to CAN/CSA-0325.1-88)

NVLAP LAB CODE 100424-0

Vibro-Acoustics Laboratory

727 Tapscott Road
Scarborough Ontario M1X 1A2
CANADA
Contact: Mr. Robert Gault
Phone: 416-291-7371
Fax: 416-291-8049
E-Mail: bgault@vibro-acoustics.com

Acoustical Testing Services

Accreditation Valid Through: December 31, 2002

NVLAP Code	*Designation*
08/P03	ASTM C423
08/P10	ANSI S12.31
08/P36	ASTM E477
08/P44	ISO 354
08/P46	ISO 3741

NVLAP LAB CODE 100425-0

Johns Manville Technical Center

10100 West Ute Avenue
P.O. Box 625005
Littleton, CO 80162-5005
Contact: Mr. Mark A. Albers
Phone: 303-978-5008
Fax: 303-978-3123
E-Mail: albersm@jm.com
URL: http://www.jm.com/mtc/appliedtech.html

Acoustical Testing Services

Accreditation Valid Through: June 30, 2002

NVLAP Code	*Designation*
08/P03	ASTM C423
08/P04	ASTM C522
08/P06	ASTM E90
08/P09	ASTM E756
08/P10	ANSI S12.31
08/P13	ANSI S12.32
08/P24	ANSI S12.10
08/P28	ASTM E1375
08/P29	ASTM E1376
08/P33	ASTM E1111
08/P34	ASTM E1414
08/P35	ASTM E1050
08/P36	ASTM E477
08/P44	ISO 354
08/P45	ISO 140, Part 3
08/P46	ISO 3741
08/P47	ISO 3742
08/P48	ISO 7779

08/P54	SAE J1400

Thermal Insulation Materials

Accreditation Valid Through: June 30, 2002

NVLAP Code	*Designation*
Corrosiveness	
01/C03	ASTM C665 (Sec. 13.8)
Flammability	
01/F01	TAPPI T461-OM
01/F02	ASTM E84
01/F05	ASTM E136
Mass, Density, and Dimensional Stability	
01/D02	ASTM C167
01/D03	ASTM C209 (Sec. 7)
01/D04	ASTM C209 (Sec. 14, 2 hour)
01/D05	ASTM C209 (Sec. 14, 24 hour) by D1037 (Sec. 100-106)
01/D08	ASTM C302
01/D09	ASTM C303
01/D11	ASTM C356
01/D12	ASTM C411
01/D13	ASTM C519
Related Material Properties	
01/V04	ASTM E96
01/V07	ASTM C1104/C1104M
Strength	
01/S01a	ASTM C165 (Proc. A)
01/S01b	ASTM C165 (Proc. B)
01/S02	ASTM C203
01/S03	ASTM C209 (Sec. 10)
01/S04	ASTM C209 (Sec. 11)
01/S05	ASTM C209 (Sec. 12)
01/S06	ASTM C209 (Sec. 13)
01/S08	ASTM C446
01/S10	ASTM D828
Thermal Resistance	
01/T01	ASTM C177
01/T05	ASTM C335
01/T06	ASTM C518
01/T10	ASTM C687
01/T11	ASTM C976

NVLAP LAB CODE 100426-0

Nemko Dallas, Inc.

802 N. Kealy
Lewisville, TX 75057-3136
Contact: Mr. Tom Tidwell
Phone: 972-436-9600
Fax: 972-436-2667
E-Mail: tom.tidwell@nemkona.com
URL: http://www.nemkona.com

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: December 31, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548
Immunity Test Methods:	
12/I01	IEC 61000-4-2 (1995) and Amendment 1 (1998): Electrostatic Discharge Immunity Test
12/I02	IEC 61000-4-3 (1995) and Amendment 1 (1998): Radiated, Radio-Frequency Electromagnetic Field Immunity Test
12/I03	IEC 61000-4-4 (1995): Electrical Fast Transient/Burst Immunity Test
12/I04	IEC 61000-4-5 (1995): Surge Immunity Test
12/I05	IEC 61000-4-6 (1996): Immunity to Conducted Disturbances, Induced Radio-Frequency Fields
12/I06	IEC 61000-4-8 (1993): Power Frequency Magnetic Field Immunity Test
12/I07	IEC 61000-4-11 (1994): Voltage Dips, Short Interruptions and Voltage Variations Immunity Tests
Safety Test Methods:	
12/T41	ACA TS-001
12/T50	AS/NZS 3260
Telecommunications Test Methods:	
12/CS03	CS-03
12/T01	Terminal Equipment Network Protection Standards, FCC Method - 47 CFR Part 68 - Analog and Digital
12/T01a	68.302 (Par. c,d,e,f) Environmental simulation; 68.304 Leakage current limit.; 68.306 Hazardous voltage limit.; 68.308 Signal power limit.; 68.310 Longitudinal balance limit.; 68.312 On-hook impedance limit.; 68.314 Billing protection
12/T01b	68.316 Hearing Aid Compatibility: technical standards
12/T01c	68.302 Environmental simulation (Par. a,b)
12/T42	ACA TS-002
12/T43	ACA TS-003
12/T44	ACA TS-004
12/T45	ACA TS-006
12/T49	ACA TS-016

NVLAP LAB CODE 100427-0

Michael & Associates

200 Innovation Blvd., Suite 229
State College, PA 16803
Contact: Mr. Kevin Michael
Phone: 814-234-7042
Fax: 814-235-1381
E-Mail: Kevin@michaelassociates.com
URL: http://www.michaelassociates.com

Acoustical Testing Services

Accreditation Valid Through: December 31, 2002

NVLAP Code	*Designation*
08/P26	ANSI S3.19 (ANSI S3.19-1974)
08/P27	ANSI S12.6

NVLAP LAB CODE 100428-0

Matsushita EMC Center

Yunitopia Sasayama, Yashiro
Sasayama-City
Sasayama, Hyogo 669-2356
JAPAN
Contact: Mr. Katsuo Ishihara
Phone: 81-795-52-5681
Fax: 81-795-52-5682
E-Mail: PAN02796@pas.mei.co.jp

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: December 31, 2002

Emissions Test Methods:

NVLAP Code	*Designation*
12/CIS14	CISPR 14-1 (March 30, 2000): Limits and methods of measurement of radio interference characteristics of household electrical appliances, portable tools and similar electrical apparatus - Part 1: Emissions
12/CIS14a	EN 55014-1 (1993) with Amendments A1 (1997) & A2 (1999)
12/CIS14b	AS/NZS 1044 (1995)
12/CIS14c	CNS 13783-1
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

Immunity Test Methods:

NVLAP Code	*Designation*
12/I01	IEC 61000-4-2 (1995) and Amendment 1 (1998): Electrostatic Discharge Immunity Test
12/I02	IEC 61000-4-3 (1995) and Amendment 1 (1998): Radiated, Radio-Frequency Electromagnetic Field Immunity Test
12/I03	IEC 61000-4-4 (1995): Electrical Fast Transient/Burst Immunity Test
12/I04	IEC 61000-4-5 (1995): Surge Immunity Test
12/I05	IEC 61000-4-6 (1996): Immunity to Conducted Disturbances, Induced Radio-Frequency Fields
12/I06	IEC 61000-4-8 (1993): Power Frequency Magnetic Field Immunity Test
12/I07	IEC 61000-4-11 (1994): Voltage Dips, Short Interruptions and Voltage Variations Immunity Tests

NVLAP LAB CODE 100430-0

Professional Service Industries, Inc., Pittsburgh Test. Lab. Div.

2710 West 5th Avenue
Eugene, OR 97402
Contact: Mr. Ralph M. Vaughn
Phone: 541-484-9212
Fax: 541-344-2735
E-Mail: ralph.vaughn@PSI.USA.com

Wood Based Products

Accreditation Valid Through: March 31, 2002

General Wood Products

NVLAP Code	*Designation*
23/G02	ASTM D1037 (Part A, Sec. 11-20)
23/G03	ASTM D1037 (Part A, Sec. 28-33)
23/G04	ASTM D2395 (Method A)
23/G07	ASTM D3043 (Method C)
23/G08	ASTM D4442 (Method A)
23/G10	ASTM E72 (Sec. 14)
23/G11	ASTM E72 (Sec. 15)

Hardwood Plywood

NVLAP Code	*Designation*
23/H01	HP-1 (Sec. 4.3)
23/H02	HP-1 (Sec. 4.4)
23/H03	HP-1 (Sec. 4.6)

Particleboard and Medium-Density Fiberboard

NVLAP Code	*Designation*
23/P02	ASTM D1037 (Part A, Sec. 61-67)
23/P03	ASTM D1037 (Part A, Sec. 68-73)
23/P04	ASTM D1037 (Part A, Sec. 81-86)
23/P05	ASTM D1037 (Part A, Sec. 100-106)
23/P06	ASTM D1037 (Part A, Sec. 107-110)
23/P07	ASTM D1037 (Part A, Sec. 118-124)
23/P08	ASTM D1037 (Part A, Sec. 126-127)
23/P09	ANSI/A208.1 (Sec. 3.4.4)
23/T01	ASTM E1333
23/T02	FTM 1-83

Structural Use Panels

23/S04	ASTM E661
23/S05	PS-1 (Sec. 4.5.2)
23/S06	PS-1 (Sec. 4.5.3) (CAN/CSA-0325.1-88)
23/S07	PS-2 (Sec. 6.4.1) (CAN/CSA-0325.1-88)
23/S08	PS-2 (Sec. 6.4.2) (CAN/CSA-0325.1-88)
23/S09	PS-2 (Sec. 6.4.4) (CAN/CSA-0325.1-88)
23/S10	PS-2 (Sec. 6.4.7) (CAN/CSA-0325.1-88)
23/S11	PS-2 (Sec. 6.4.8) (CAN/CSA-0325.1-88)
23/S12	PS-2 (Sec. 6.4.9) (CAN/CSA-0325.1-88)
23/S13	PS-2 (Sec. 6.4.17) (CAN/CSA-0325.1-88)
23/S14	PS-2 (Sec. 6.4.18) (CAN/CSA-0325.1-88)
23/S15	PS-2 (Sec. 6.4.19) (Supplement No.1-92 to CAN/CSA-0325.1-88)
23/S16	PS-2 (Sec. 6.4.20) (Supplement No.1-92 to CAN/CSA-0325.1-88)

NVLAP LAB CODE 100431-0

PCTEST Engineering Laboratory, Inc.

6660-B Dobbin Road
Columbia, MD 21045-4708
Contact: Mr. Randy Ortanez
Phone: 410-290-6652
Fax: 410-290-6654
E-Mail: randy@pctestlab.com
URL: http://www.pctestlab.com

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: September 30, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548
Immunity Test Methods:	
12/I01	IEC 61000-4-2 (1995) and Amendment 1 (1998): Electrostatic Discharge Immunity Test
12/I02	IEC 61000-4-3 (1995) and Amendment 1 (1998): Radiated, Radio-Frequency Electromagnetic Field Immunity Test
12/I03	IEC 61000-4-4 (1995): Electrical Fast Transient/Burst Immunity Test
12/I04	IEC 61000-4-5 (1995): Surge Immunity Test
12/I05	IEC 61000-4-6 (1996): Immunity to Conducted Disturbances, Induced Radio-Frequency Fields
12/I06	IEC 61000-4-8 (1993): Power Frequency Magnetic Field Immunity Test
12/I07	IEC 61000-4-11 (1994): Voltage Dips, Short Interruptions and Voltage Variations Immunity Tests

NVLAP LAB CODE 100432-0

InfoGard Laboratories, Inc.

641 Higuera Street, Second Floor
San Luis Obispo, CA 93401
Contact: Mr. Mac Brinton
Phone: 805-783-0810
Fax: 805-783-0889
E-Mail: mbrinton@infogard.com
URL: http://www.infogard.com

Cryptographic Module Testing

Accreditation Valid Through: June 30, 2002

NVLAP Code	*Designation*
17/C01	NIST-CSTT:140-1; National Institute of Standards and Technology-Cryptographic Support Test Tool (CSTT) for the Federal Information Processing Standard 140-1 (FIPS 140-1) "Security Requirements for Cryptographic Modules."
17/C01a	Test Method Group 1: All test methods derived from FIPS 140-1 and specified in the CSTT, except those listed in Group 2 and Group 3.
17/C01b	Test Method Group 2: Test methods for Physical Security, Level 4 derived from FIPS 140-1 and specified in the CSTT
17/C01c	Test Method Group 3: Test methods for Software Security, Level 4 derived from FIPS 140-1 and specified in the CSTT
17/C02	FIPS-Approved Cryptographic Algorithms (see <http://csrc.nist.gov/cryptval>) as required in FIPS PUB 140-1.

NVLAP LAB CODE 100501-0

Calvert Cliffs Nuclear Power Plant, Inc.

Member of Constellation Energy Group
1650 Calvert Cliffs Parkway
Lusby, MD 20657-4702
Contact: Mr. Timothy J. Kirkham
Phone: 410-495-6885
Fax: 410-495-2618
E-Mail: timothy.j.kirkham@ccnppi.com

Ionizing Radiation Dosimetry

Accreditation Valid Through: September 30, 2002

This facility has been evaluated and deemed competent to process the radiation dosimeter listed below through employing a Panasonic automatic reader UD710A.

This facility is accredited to process the following dosimeter by virtue of actual demonstration of compliance with ANSI HPS N13.11-1993 through testing.

Panasonic TLD model UD802 in a Panasonic UD874A holder for ANSI-N13.11 categories I, II, IIIA, IIIB, IV, VC, VI, VII, VIII.

NVLAP LAB CODE 100502-0

AmerenUE, Callaway Plant

P.O. Box 620
Fulton, MO 65251-0620
Contact: Mr. Christopher C. Graham
Phone: 573-676-8380
Fax: 573-676-4476
E-Mail: ccgraham@cal.ameren.com

Ionizing Radiation Dosimetry

Accreditation Valid Through: March 31, 2002

This facility has been evaluated and deemed competent to process the radiation dosimeter listed below through employing a Panasonic Automatic reader model UD710A.

This facility is accredited to process the following dosimeter by virtue of actual demonstration of compliance with ANSI HPS N13.11-1993 through testing.

Panasonic TLD model UD-802 in a Panasonic UD-874AT holder for ANSI HPS N13.11 categories I, II, IIIA, IV, VC, VI, VII, VIII.

NVLAP LAB CODE 100503-0

Mallinckrodt, Inc.

2703 Wagner Place
Maryland Heights, MO 63043
Contact: Ms. Kay Yoder
Phone: 314-654-7432
Fax: 314-654-7933
E-Mail: kay.yoder@mkg.com

Ionizing Radiation Dosimetry

Accreditation Valid Through: September 30, 2002

This facility has been evaluated and deemed competent to process the radiation dosimeter listed below through employing Harshaw automatic reader model 6600E.

This facility is accredited to process the following dosimeter by virtue of actual demonstration of compliance with ANSI HPS N13.11-1993 through testing.

Harshaw TLD model 8825 for ANSI-N13.11 catergories II, IIIB, IV, VC, VI, VII.

NVLAP LAB CODE 100504-0

Naval Dosimetry Center

National Naval Medical Center
8901 Wisconsin Ave.
Bethesda, MD 20889-5614
Contact: CAPT K. Mendenhall
Phone: 301-295-0142 /5410
Fax: 301-295-5981
E-Mail: kmendenhall@navdoscen.med.navy.mil

Ionizing Radiation Dosimetry

Accreditation Valid Through: December 31, 2002

This facility has been evaluated and deemed competent to process the radiation dosimeters listed below through employing the Harshaw/Bicron automatic reader models 8800PC and 6600.

This facility is accredited to process the following dosimeters by virtue of actual demonstration of compliance with ANSI HPS N13.11-1993 and ANSI HPS N13.32-1995 through testing.

Harshaw 8801 (DT 648/PD)(Harshaw 4 Chip Card, 3 TLD700, 1 TLD600) in a Harshaw/Bicron model 8802 holder for ANSI-N13.11 categories I, II, IIIA, IV, VA, VI, VII, VIII.

Bicron 8840-8841 (4 chip MCP Copper Doped Intergrated Dosimetry System) in a Harshaw/Bicron model 8840 holder for ANSI.N13.11 categories I, II, IIIA, IV, VA, VI, VII, VIII.

Bicron DXTRAD-707H finger ring for ANSI HPS N13.32 (NIST Handbook 150-4, Table 2) categories I, II, IIIA, IIIB, IVA, IVB, VA, VB, VC, VI, VII.

NVLAP LAB CODE 100505-0

Duke Power Company Dosimetry Laboratory

526 South Church Street
P.O. Box 1006
Charlotte, NC 28201-1006
Contact: Mr. Donald N. Mei
Phone: 704-382-7547
Fax: 704-382-4477
E-Mail: dnmei@duke-energy.com

Ionizing Radiation Dosimetry

Accreditation Valid Through: March 31, 2002

This facility has been evaluated and deemed competent to process the radiation dosimeter listed below through employing a Harshaw Model 8800.

This facility is accredited to process the following dosimeter by virtue of actual demonstration of compliance with ANSI HPS N13.11-1993 through testing.

Harshaw TLD card Type 8801 in a model 8814 BGN holder for ANSI-N13.11 categories I, II, IIIA, IV, VB, VI, VII, VIII.

NVLAP LAB CODE 100512-0

Radiation Detection Company

8095 Camino Arroyo
Gilroy, CA 95020
Contact: Mr. Richard H. Holden
Phone: 408-842-2700
Fax: 408-847-2988

URL: http://www.radetco.com

Ionizing Radiation Dosimetry

Accreditation Valid Through: December 31, 2002

This facility has been evaluated and deemed competent to process the radiation dosimeters listed below through employing (1) Teledyne 7300; (2) Teledyne 310 reader; (3) Harshaw 3000A and 3500 reader; (4) by manual film processing and reading on a Macbeth TD932 densitometer or ESECO T-90; (5) NE Autoscan 60 system and Ziess microscope and (6) Harshaw 6600 and 8800 TLD readers.

This facility is accredited to process the following dosimeters by virtue of actual demonstration of compliance with ANSI HPS N13.11-1993 through testing.

DESIGNATION	PROCESS	ANSI-N13.11 CATEGORIES
Type 06 TLD XG	1,2	II, IV
Type 09 TLD XBG	1,2,3	IV,VII
Type 22 TLD XBGN	2,3,6	I, IIIB, VI, VIII
Type 01 Film XBG	4	I, II, IIIA, IIIB, IV, VA, VB, VI, VII
Type 23 TLD XBGN	2,3,5	II,IV,VA,VII,VIII

NVLAP LAB CODE 100514-0

Ginna Nuclear Station

1503 Lake Road
Ontario, NY 14519-9742
Contact: Dr. Frederic J. Mis
Phone: 716-771-3323
Fax: 716-771-3905
E-Mail: frederic_mis@RGE.com

Ionizing Radiation Dosimetry

Accreditation Valid Through: September 30, 2002

This facility has been evaluated and deemed competent to process the TLD radiation dosimeters listed below through employing a Panasonic automatic reader model UD710A.

This facility is accredited to process the following dosimeters by virtue of actual demonstration of compliance with ANSI HPS-N13.11-1993 through testing.

Panasonic TLD model UD802-AS in an ISA Model 821 hanger for ANSI-N13.11 categories I, II, IIIB, IV, VA, VI, VII.

Panasonic TLD model UD812A-5 in a Panasonic UD884A-T hanger for ANSI-N13.11 categories I, II, IV, VA, VII.

Combination Panasonic TLD model UD812A-5 and UD809-AS in a Panasonic UD884A-T holder with cd shields for ANSI-N13.11 category VIII.

Rados Electronic Dosimeter RAD-51R with a Rados ADR 1000 and 2000 reader for HPS ANSI-N13.32-1995 categories II, IIIB, IV and VI.

NVLAP LAB CODE 100516-0

Tennessee Valley Authority External Dosimetry Service

Sequoyah Access Road, P.O. Box 2000
Soddy-Daisy, TN 37379-2000
Contact: Mr. Mark A. Palmer
Phone: 423-843-8857
Fax: 423-843-7133
E-Mail: MAPALMER@TVA.GOV

Ionizing Radiation Dosimetry

Accreditation Valid Through: March 31, 2002

This facility has been evaluated and deemed competent to process the radiation dosimeter listed below through employing a Panasonic automatic reader model UD710A.

This facility is accredited to process the following dosimeter by virtue of actual demonstration of compliance with ANSI HPS N13.11-1993 through testing.

Panasonic TLD model UD802 in an ISA model 820 or Polymar 1-A holder for ANSI HPS N13.11 categories I, II, IIIA, IV, VC, VI, VII, VIII.

(See 'How To Use This Directory' on page 7.)

NVLAP LAB CODE 100517-0

Carolina Power & Light Company, Harris Energy & Enviro. Center

3932 New Hill-Holleman Road
P.O. Box 327
New Hill, NC 27562-0327
Contact: Mr. Jeff Kiser
Phone: 919-362-3215
Fax: 919-362-3354

Ionizing Radiation Dosimetry
Accreditation Valid Through: September 30, 2002

This facility has been evaluated and deemed competent to process the TLD radiation dosimeters listed below through employing a Panasonic automatic reader model UD710A.

This facility is accredited to process the following dosimeters by virtue of actual demonstration of compliance with ANSI HPS-N13.11-1993 and ANSI HPS-N13.32-1995 through testing.

Panasonic TLD model UD802 in a Panasonic closed type UD-874 ATM1 or a Polymar Configuration 1-A holder for HPS-N13.11 categories I, II, IIIA, IV, VC, VI, VII, VIII.

Panasonic extremity TLD model UD-807 in a plastic ring holder (Panasonic UD-807R) for ANSI HPS-13.32 (NIST Handbook 150-4, table 2) category IVA.

Based on equivalency, the Panasonic TLD model UD802 in a wrist holder for ANSI HPS-13.32 (NIST Handbook 150-4, table 2) categories I, II, IIIA, IV, VC, VI, VII.

Merlin Gerin DMC-100 or DMC-2000 Electronic Dosimeter (ED) with LDM-101 reader for ANSI HPS N13.11 category IV.

Based on equivalency, the DMC-100 or DMC-2000 Electronic Personal Dosimeter (EPD) in a wrist holder for ANSI HPS-13.32 (NIST Handbook 150-4, table 2) category IV.

NVLAP LAB CODE 100518-0

Landauer, Inc.

2 Science Road
Glenwood, IL 60425-1586
Contact: Dr. R. Craig Yoder
Phone: 708-755-7000
Fax: 708-755-7011
E-Mail: cyoder@landauerinc.com
URL: http://www.landauerinc.com

Ionizing Radiation Dosimetry
Accreditation Valid Through: December 31, 2002

This facility has been evaluated and deemed competent to process the radiation dosimeters listed below through employing (1) Landauer (Kanars Data) automatic film reader; (2) Harshaw 2000 B/D Laser reader; (3) CR-39 manual optical readers; (4) manual densitometers X-Rite, Tech/Ops model 301, Macbeth models TD504, TD931, TD904; (5) ALNOR Dosacus reader; (6) Pulsed Optically Stimulated Luminescence (POSL); (7) Harshaw 4000 single chip reader; (8) microscopes.

This facility is accredited to process the following dosimeters by virtue of actual demonstration of compliance with ANSI HPS N13.11-1993 through testing.

Landauer designation:

DOSIMETER	PROCESS	ANSI N13.11 CATEGORY	
		Based On Testing	Based On Tech. Equiv.
TLD			
K - ALNOR (TLD 100 or TLD 700 chips) (100518 H)	5	I,II,IIIA,IV, VC,VI,VII	
W - modified - 2 chip Escort with x-ray filtration (100518-J)	2,7	I, II	
Z - K badge (TLD 100 or 700 chips) plus Neutron Track Etch Neutrak 144 (100518-I)	3,5,8	VIII	I-VII
F - L badge plus CR-39	1,3		I-VIII
L - 4 chip Alnor TLD	5		I-VII
M - K badge (TLD 700 chips)	5		I-VII
S - K badge (TLD 700 chips) plus ER (100518)	3,5	VIII	I-VII

POSL			
J - Luxel (003/POSL) plus Neutrak 144 (100518-2)	6,8	VIII	I-VII
P - Luxel (003/POSL) (100518-1)	6	I, II, IIIA, IV, VC, VI, VII	

This facility has been accredited to process the extremity dosimeters listed below, by virtue of actual demonstration of compliance with ANSI-N13.32-1995 and NIST Handbook 150-4, Pg. 14, Table 2, through employing the following readers/process: (1) Landauer Custom Automated; (2) Kanars Data Custom Automated (film); (3) Alnor Dosacus Automatic Reader; (4) Harshaw 2000B/D, 4000 manual; (5) Macbeth TD504, TD904, TD931 manual; (6) Landauer Custom Luxel reader; (7) Pulsed Optically Stimulated Luminescence (POSL).

DOSIMETER	PROCESS	ANSI N13.32 CATEGORY	
		Based On Testing	Based On Tech. Equiv.
TLD			
U - Ring (TLD-100 chip) (Finger) (100518Z)	1,4	I, II, IIIA, IV(Cs), VA, VB, VD, VI	VII
K - Modified K (Wrist) (100518X)	3,4	IIIA and VI	I, II, IV, VA, VB, VD, VII
POSL			
P- Luxel (003/POSL) (100518R)	7	IIIA	I, II, IV, VA, VB,VI, VII

NVLAP LAB CODE 100519-0

South Texas Project Dosimetry Laboratory

P.O. Box 289
Wadsworth, TX 77483
Contact: Mr. G. T. Powell
Phone: 361-972-7566
Fax: 361-972-7757
E-Mail: gtpowell@stpegs.com

Ionizing Radiation Dosimetry

Accreditation Valid Through: September 30, 2002

This facility has been evaluated and deemed competent to process the radiation dosimeters listed below through employing a Panasonic automatic reader model UD710A.

This facility is accredited to process the following dosimeters by virtue of actual demonstration of compliance with ANSI HPS-N13.11-1993 through testing.

Panasonic TLD Model UD802 in an ISA Model 830 holder for ANSI-N13.11 categories II, IV, VC, VI, VII, & VIII.

Panasonic TLD Model UD802/Neutron Pack in a Model ISA 830/ISA 810 holder for ANSI-N13.11 category VIII.

NVLAP LAB CODE 100524-0

Duke Engineering and Services Environmental Laboratory

29 Research Drive
Westborough, MA 01581-3913
Contact: Mr. Melvin W. Gmyrek
Phone: 978-568-2522
Fax: 978-568-2520
E-Mail: mwgmyrek@dukeengineering.com

Ionizing Radiation Dosimetry

Accreditation Valid Through: September 30, 2002

This facility has been evaluated and deemed competent to process the radiation dosimeters listed below through employing a Panasonic automatic reader model 710A and a Rialto XT extremity dosimeter reader.

This facility is accredited to process the following dosimeters by virtue of actual demonstration of compliance with ANSI HPS N13.11-1993 and ANSI HPS N13.32-1995 through testing.

Panasonic TLD model UD-808 in a ISA model 830U holder for ANSI-N13.11 categories I, II, IIIA, IIIB, IV, VC, VI, VII.

Panasonic TLD model 814-AS4 in a ISA model 830U holder for ANSI-N13.11 categories I, II, IIIA, IIIB, IV,

(See 'How To Use This Directory' on page 7.)

VC, VI, VII.

Panasonic TLD models UD808/UD814-AS4 combined for category VIII.

Bicron-NE extremity TLD mode 869/A/2B in a ring tape holder for HPS ANSI 13.32 (NIST Handbook 150-4, table 2) categories IVA, IVB, VA, VB and VD.

NVLAP LAB CODE 100528-0

TXU Electric - Comanche Peak Steam Electric Station

5 miles North of Glen Rose on Hwy. 56 N
P.O. Box 1002
Glen Rose, TX 76043-5315
Contact: Mr. John R. Curtis
Phone: 254-897-5332
Fax: 254-897-0972
E-Mail: jcurtisl@txu.com

Ionizing Radiation Dosimetry

Accreditation Valid Through: June 30, 2002

This facility has been evaluated and deemed competent to process the radiation dosimeter listed below through employing a Panasonic automatic reader model UD710A.

This facility is accredited to process the following dosimeter by virtue of actual demonstration of compliance with ANSI HPS N13.11-1993 through testing.

Panasonic TLD model UD802-AT in an ISA model 810 holder with Mylar-window for ANSI-N13.11 categories IIIB, IV, VB, VI, VII, VIII.

NVLAP LAB CODE 100529-0

Detroit Edison, Fermi 2 Dosimetry Laboratory

6400 North Dixie Highway, 100 AIB
Newport, MI 48166
Contact: Mr. Ronald Gillmore
Phone: 734-586-1388
Fax: 734-586-1041
E-Mail: gillmorer@dteenergy.com
URL: http://TLDLAB@DTEEnergy.com

Ionizing Radiation Dosimetry

Accreditation Valid Through: September 30, 2002

This facility has been evaluated and deemed competent to process the radiation dosimeter listed below through employing a Panasonic automatic reader model UD710A.

This facility is accredited to process the following dosimeter by virtue of actual demonstration of compliance with ANSI HPS-N13.11-1993 through testing.

Panasonic TLD model UD802-AS in an ISA-820 holder for ANSI-N13.11 categories I, II, IIIA, IV, VC, VI, VII, VIII.

NVLAP LAB CODE 100535-0

Entergy Operations, Inc.

Waterford 3, 17265 River Road
Killona, LA 70066
Contact: Mr. Ronald C. McLendon
Phone: 504-464-3199
Fax: 504-464-3151
E-Mail: rmclend@entergy.com

Ionizing Radiation Dosimetry

Accreditation Valid Through: December 31, 2002

This facility has been evaluated and deemed competent to process the radiation dosimeter listed below through employing a Panasonic automatic reader model UD710A.

This facility is accredited to process the following dosimeter by virtue of actual demonstration of compliance with ANSI HPS N13.11-1993 through testing.

Panasonic TLD model UD802-AS in a Panasonic 874A holder for ANSI-N13.11 categories I, II, IIIA, IV, VC, VI, VII, VIII.

This facility is accredited to process the following dosimeter by virtue of actual demonstration of compliance with ANSI-N13.32 through testing:

Panasonic TLD model UD807 in a Panasonic UD-807R holder for ANSI-N13.32 categories IVA and IVB.

NVLAP LAB CODE 100536-0

Arizona Public Service Co., Palo Verde Nuclear Generating Station

Palo Verde Nuclear
5801 S. Wintersburg Road, Station 6107
Tonopah, AZ 85354-7529
Contact: Mr. Michael W. Lantz
Phone: 623-393-5200
Fax: 623-393-2624
E-Mail: mlantz@apsc.com
URL: http://www.apsc.com/dosim.asp

Ionizing Radiation Dosimetry

Accreditation Valid Through: September 30, 2002

This facility has been evaluated and deemed competent to process the TLD radiation dosimeters listed below through employing a Panasonic automatic reader model UD710A.

This facility is accredited to process the following dosimeters by virtue of actual demonstration of compliance with ANSI HPS N13.11-1993 through testing.

Panasonic TLD model UD812(AS) in a single use holder for ANSI-N13.11 categories I, II, IIIB, IV, VC, VI, VII.

(See 'How To Use This Directory' on page 7.)

Panasonic TLD combination UD809(AS) (in UD885A-T holder)/UD812(AS) (in a single use holder) for ANSI-N13.11 category VIII.

This facility is accredited to process the following dosimeters by showing equivalence of compliance with ANSI HPS N13.11-1993. Merlin Gerlin DMC-2000 Electronic Personnel Dosimeter for ANSI-N13.11 categories IIIB, IV, VI.

NVLAP LAB CODE 100537-0

Pacific Gas & Electric Company, Diablo Canyon Nuclear Power Plant

P.O. Box 56
Avila Beach, CA 93424
Contact: Mr. Neal Grossen
Phone: 805-545-4033
Fax: 805-545-6645
E-Mail: negl@pge.com

Ionizing Radiation Dosimetry
Accreditation Valid Through: September 30, 2002

This facility has been evaluated and deemed competent to process the radiation dosimeters listed below through employing a Panasonic automatic reader model UD710A.

This facility is accredited to process the following dosimeters by virtue of actual demonstration of compliance with ANSI HPS N13.11-1993 through testing.

Panasonic TLD model UD802-AS in a Panasonic UD875AT holder for ANSI-N13.11 categories II, IIIA, IV, VA, VI, VII, VIII.

Combination Panasonic TLD model UD813-AS8 in a Panasonic UD885AT holder for ANSI-N13.11 category VIII.

NVLAP LAB CODE 100538-0

Entergy Nuclear Northeast

Broadway and Bleakley Avenue
Buchanan, NY 10511-1099
Contact: Ms. Lori Glander
Phone: 914-271-7118
Fax: 914-734-5734
E-Mail: glande@entergy.com

Ionizing Radiation Dosimetry
Accreditation Valid Through: June 30, 2002

This facility has been evaluated and deemed competent to process the radiation dosimeter listed below through employing a Panasonic automatic reader model UD710A.

This facility is accredited to process the following dosimeter by virtue of actual demonstration of compliance with ANSI-HPS N13.11-1993 through testing.

Panasonic TLD model UD802 (AS or AT) in an 874 AT holder for ANSI-N13.11 categories I, II, IIIB, IV, VC, VI, VII, VIII.

NVLAP LAB CODE 100539-0

U.S. Army Radiation Standards & Dosimetry Laboratory

Attn: AMSAM-TMD-SR-D, Bldg. 5417
Redstone Arsenal, AL 35898-5000
Contact: Mr. Patrick Kuykendall
Phone: 256-876-3340
Fax: 256-955-6413
E-Mail: patrick.kuykendall@redstone.army.mil

Ionizing Radiation Dosimetry
Accreditation Valid Through: December 31, 2002

This facility has been evaluated and deemed competent to process the radiation dosimeter listed below through employing a Panasonic Model 710 reader.

This facility is accredited to process the following dosimeter by virtue of actual demonstration of compliance with ANSI HPS N13.11-1993 through testing.

Panasonic Model UD802AS in a Panasonic UD-874A-T holder for ANSI-N13.11 categories I, II, IIIA, IIIB, IV, VA, VB, VC, VI, VII, VIII.

NVLAP LAB CODE 100540-0

Dominion Nuclear Connecticut, Inc.

Route 156, Rope Ferry Road
Waterford, CT 06385
Contact: Mr. J. Eric Laine
Phone: 860-444-5343
Fax: 860-444-5640
E-Mail: John_E_Laine@dom.com

Ionizing Radiation Dosimetry
Accreditation Valid Through: December 31, 2002

This facility has been evaluated and deemed competent to process the radiation dosimeter listed below through employing a Harshaw model 8800 TLD workstation.

This facility is accredited to process the following dosimeter by virtue of actual demonstration of compliance with ANSI HPS N13.11-1993 through testing.

Harshaw TLD card model 8801N (3 TLD 700, 1 TLD 600 chips) in a Harshaw Model 8810 holder for ANSI-N13.11

categories I, II, IIIB, IV, VB, VI, VII, and VIII.

NVLAP LAB CODE 100544-0

Florida Power & Light Company

700 Universe Blvd.
P.O. Box 14000
Juno Beach, FL 33408-0420
Contact: Mr. Joseph Danek
Phone: 561-694-4213
Fax: 561-694-3706
E-Mail: joe_danek@fpl.com

Ionizing Radiation Dosimetry

Accreditation Valid Through: June 30, 2002

This facility has been evaluated and deemed competent to process the radiation dosimeter listed below through employing a Panasonic automatic reader model UD716.

This facility is accredited to process the following dosimeter by virtue of actual demonstration of compliance with ANSI-N13.11-1993 through testing.

Panasonic TLD model UD802-AT or AS in a ISA 820 holder for ANSI-N13.11 categories I, II, IIIB, IV, VC, VI, VII, VIII.

NVLAP LAB CODE 100548-0

US Air Force Center for Radiation Dosimetry

2402 E. Drive
Brooks AFB, TX 78235-5114
Contact: Mr. Bruce B. Dicey
Phone: 210-536-5569
Fax: 210-536-5368
E-Mail: Bruce.Dicey@Brooks.AF.MIL
URL: http://sg-www.satx.disa.mil/iera/sdr.htm

Ionizing Radiation Dosimetry

Accreditation Valid Through: March 31, 2002

This facility has been evaluated and deemed competent to process the radiation dosimeters listed below employing the Panasonic automatic readers model UD716AGL and UD-7900M for the whole-body dosimeters and the Harshaw 6600 Automatic TLD Reader for the EXT-RAD & DXT-RAD extremity dosimeters.

This facility is accredited to process the following dosimeters by virtue of actual demonstration of compliance with ANSI HPS N13.11-1993 through testing.

Panasonic TLD model UD802AT in model 820-C hanger for ANSI-N13.11 categories I, II, IIIA, IV, VC, VI, VII, VIII.

Panasonic TLD model UD802AT in ISA model 822 neutron hanger for ANSI-N13.11 categories IV, VIII.

Harshaw EXT-RAD extremity TLD-100 chip in a finger ring strap for ANSI HPS N-13.32-1995 (NIST Handbook 150-4, table 2) categories IV, VA, and VII.

Harshaw DXT-RAD extremity TLD-100 chip in a finger ring strap for ANSI HPS N-13.32-1995 (NIST Handbook 150-4, table 2) categories IV, VA, and VII.

NVLAP LAB CODE 100551-0

Georgia Power Company/Enviro. Affairs, Enviro. Lab-Dosimetry

5131 Maner Road
Smyrna, GA 30080-7321
Contact: Mr. Michael C. Nichols
Phone: 404-799-2112
Fax: 404-799-2141
E-Mail: mcnichol@southernco.com

Ionizing Radiation Dosimetry

Accreditation Valid Through: March 31, 2002

This facility has been evaluated and deemed competent to process the radiation dosimeters listed below through employing Panasonic automatic readers model UD-710A and UD-717.

This facility is accredited to process the following dosimeter by virtue of actual demonstration of compliance with ANSI HPS N13.11-1993 and ANSI HPS N13.32 through testing.

Panasonic TLD model UD802-AS or AT in a UD-874ATM1 (closed) hanger for ANSI HPS N13.11 categories II, IIIA, IV, VC, VI, VII, VIII.

Panasonic extremity TLD model UD-817 in an elastic ring holder for ANSI HPS N13.32-1995 (NIST Handbook 150-4, table 2) categories II, IV and VII.

NVLAP LAB CODE 100554-0

PPL Susquehanna, LLC

Two North Ninth Street
Allentown, PA 18101-1179
Contact: Mr. Stephen L. Ingram
Phone: 610-774-5412
Fax: 610-774-7205
E-Mail: slingram@pplweb.com

Ionizing Radiation Dosimetry

Accreditation Valid Through: March 31, 2002

This facility has been evaluated and deemed competent to process the radiation dosimeter listed below through employing a Panasonic automatic reader model UD710A.

This facility is accredited to process the following dosimeter by virtue of actual demonstration of compliance with ANSI HPS N13.11-1993 through testing.

Panasonic TLD model UD802-AS in a Panasonic UD874-AT or UD874-ATM1 hanger for ANSI-N13.11 categories I, II, IIIB, IV, VC, VI, VII, VIII.

NVLAP LAB CODE 100555-0

ICN Worldwide Dosimetry Service, Div. of ICN Biomedicals, Inc.

3300 Hyland Ave., ICN Plaza
Costa Mesa, CA 92626
Contact: Ms. Sandra Nemecek
Phone: 714-545-0100 x2297
Fax: 714-668-3149
E-Mail: smnemecek@icnpharm.com
URL: http://www.dosimetry.com

Ionizing Radiation Dosimetry

Accreditation Valid Through: June 30, 2002

This facility has been evaluated and deemed competent to process the radiation dosimeters listed below through employing the TLD automatic readers: Panasonic model UD710A, UD716, and Harshaw models 8800 and 6600; TLD manual readers: Panasonic model UD702 and Harshaw models 5500 and 3500; MacBeth TD932 densitometer, a custom automatic developer and densitometer for film processing, and a Bicron Autoscan 60 chemical etch system.

WHOLE BODY

This facility is accredited to process the following dosimeters by virtue of actual demonstration of compliance with ANSI HPS N13.11-1993 through testing.

Panasonic TLD model ICN UD-802/822 with a model UD-854 Sofpack custom pouch, or UD-874 hanger (ICN type 3) for ANSI-N13.11 categories I, II, IIIA, IV, VC, VI, VII, VIII.

ICN Film Badge (Kodak Type 2 film/Type 4 holder) (ICN type 1) for ANSI-N13.11 categories I, II, IIIA, IV, VA, VI, VII.

ICN Film Badge (Kodak Type 2 film/Type 4 holder with CR39) for ANSI-N13.11 category VIII by reference to TLD-760 (ICN type 15) dosimeter.

Panasonic TLD model UD-802 (854/874/Sofpack) with CR39 (ICN type 6) for ANSI-N13.11 category VIII.

ICN Remtrack (Bicron/Harshaw) TLD model 100 enclosed in a laminated polyethylene material holder (ICN type 21) for ANSI N13.11 category II and IV.

TLD-100 (ICN type 14) for ANSI-N13.11 categories I, II, IIIA, IV, VA, VI, VII.

TLD-760 (ICN type 16) for ANSI-N13.11 categories I, II, IIIA, IV, VC, VI, VII, VIII.

TLD-760 plus CR39 (ICN type 15) for ANSI-N13.11 category VIII.

EXTREMITY

This facility has been accredited to process the extremity dosimeters listed below by virtue of actual demonstration of compliance with ANSI HPS N13.32-1995 and NIST Handbook 150-4, Page 14, Table 2 categories.

Panasonic extremity TLD UD-807 in flex ring holder (ICN type 5), based on testing, for categories IVA, VA, and VB.

TLD-100 (Ring)(ICN type 19), based on testing, for categories I, II, IIIA, IV, VA, VB, VD, VI, and VII.

TLD-100 (Wrist), based on technical equivalence, for categories I, II IIIA, IIIB, IV, VA, VI, VII.

TLD-100 1C (Ring), based on technical equivalence, for categories I, II, IIIA, IV, VA, VB, VD.

TLD-760 (Wrist), based on technical equivalence, for categories I, II, IIIA, IIIB, IV, VA, VI, VII.

TLD 802 (Wrist), based on technical equivalence, for categories I, II, IIIA, IV, VC, VI, VII.

TLD 803 (Wrist), based on technical equivalence, for catergories I, II, IIIA, IV, VA, VI, VII.

ICN film (Wrist), based on technical eqivalence, for categories I, II, IIIA, IV, VA, VI, VII.

NVLAP LAB CODE 100556-0

Atomic Energy Industrial Laboratory of the Southwest, Inc.

9261 Kirby Drive
Houston, TX 77054-2514
Contact: Mr. Steven H. Allen
Phone: 713-790-9719
Fax: 713-790-0542
E-Mail: shallen@aeil.com
URL: http://www.aeil.com

Ionizing Radiation Dosimetry

Accreditation Valid Through: September 30, 2002

This facility has been evaluated and deemed competent to process the radiation dosimeters listed below through employing film processing using a computerized custom densitometer.

This facility is accredited to process the following dosimeters by virtue of actual demonstration of compliance with ANSI HPS N13.11-1993 through testing.

Film Badge B-4 (Kodak Type 2) for ANSI-N13.11 categories I, II, IIIA, IV, VC, VI, VII.

Film Badge N-5 (Kodak Type 2 and A) for ANSI-N13.11 category VIII.

NVLAP LAB CODE 100559-0

Troxler Radiation Monitoring Svc. a div. of Troxler Elect. Labs

3008 Cornwallis Road
P.O. Box 12057
Research Triangle Park, NC 27709
Contact: Mr. Stephen A. Browne
Phone: 919-549-8661
Fax: 919-549-0761
E-Mail: troxrso@troxlerlabs.com
URL: http://www.troxlerlabs.com

Ionizing Radiation Dosimetry
Accreditation Valid Through: June 30, 2002

This facility has been evaluated and deemed competent to process the radiation dosimeter listed below through employing a Panasonic automatic reader model UD710A.

This facility is accredited to process the following dosimeter by virtue of actual demonstration of compliance with ANSI HPS N13.11-1993 through testing.

Panasonic TLD model UD802 with model UD854 hanger for ANSI-N13.11 category I, II, IIIA, IV, VC, VI, VII, VIIIA.

NVLAP LAB CODE 100560-0

General Dynamics, Electric Boat

75 Eastern Point Road
Groton, CT 06340-4909
Contact: Mr. Robert D. Renza
Phone: 860-433-3674
Fax: 860-433-0946
E-Mail: rrenza@ebmail.gdeb.com
URL: http://www.gdeb.com

Ionizing Radiation Dosimetry
Accreditation Valid Through: March 31, 2002

This facility has been evaluated and deemed competent to process the radiation dosimeter listed below through employing a Harshaw manual reader model 4000.

This facility is accredited to process the following dosimeter by virtue of actual demonstration of compliance with ANSI HPS N13.11-1993 through testing.

A Harshaw TLD model 4040, CaF2Mn Bulb Dosimeter in a model 4039 holder for ANSI HPS N13.11 Category IV.

NVLAP LAB CODE 100561-0

Newport News Shipbuilding Radiological Control Department

4101 Washington Avenue
Newport News, VA 23607-2770
Contact: Mr. Michael F. Smith
Phone: 757-688-6853
Fax: 757-380-2006
E-Mail: smith_mf@nns.com

Ionizing Radiation Dosimetry
Accreditation Valid Through: March 31, 2002

This facility has been evaluated and deemed competent to process the radiation dosimeter listed below through employing a Harshaw automatic reader model 8800.

This facility is accredited to process the following dosimeter by virtue of actual demonstration of compliance with ANSI HPS N13.11-1993 through testing.

Harshaw TLD models 2276-L and LNG-0677, BG (2 TLD 700, 1 TLD 600) in a Type 80 Harshaw cardholder for ANSI HPS N13.11 category IV.

NVLAP LAB CODE 100562-0

Radiation Laboratory, Taiwan Power Company

P.O. Box 7
Shihmen, Taipei 25302
TAIWAN
Contact: Mr. W. W. Yeh
Phone: +886-2-2638-1397
Fax: +886-2-2638-2446
E-Mail: u706667@taipower.com.tw

Ionizing Radiation Dosimetry
Accreditation Valid Through: September 30, 2002

This facility has been evaluated and deemed competent to process the radiation dosimeter listed below through employing a Panasonic automatic reader model UD710A.

This facility is accredited to process the following dosimeter by virtue of actual demonstration of compliance with ANSI HPS N13.11-1993 through testing.

Panasonic TLD model UD802AS in a UD-874A holder for ANSI-N13.11 categories I, II, IIIA, IV, VA, VI, VII, VIII.

NVLAP LAB CODE 100565-0

Naval Nuclear Propulsion Program Directorate, Washington, DC

Puget Sound Naval Shipyard, Rad. Hlth
Division, Code 105.5, 1400 Farragut Ave
Bremerton, WA 98314-5001
Contact: Mr. Mark S. Johnson
Phone: 360-476-3596
Fax: 360-476-4383

Ionizing Radiation Dosimetry

Accreditation Valid Through: March 31, 2002

The facility listed has been evaluated as a representative site and deemed competent to process the radiation dosimeter listed below through employing a Radiac Computer-Indicator Model No. CP-1112/PD TLD reader.

This facility is accredited to process the following dosimeter by virtue of actual demonstration of compliance with ANSI HPS N13.11-1993 through testing:

CaF2:Mn Bulb Dosimeter (DT-526/PD) for ANSI-N13.11 categories II, IV.

The accreditation is also extended to include processing performed by other facilities in the Naval Nuclear Propulsion Program which use identical equipment and procedures as listed above.

NVLAP LAB CODE 100571-0

United States Dosimetry Technology, Inc.

660-A George Washington Way
Richland, WA 99352-4246
Contact: Mr. M. K. Winegardner
Phone: 509-946-8738
Fax: 509-943-2710
E-Mail: mk_wine@compuserve.com
URL: http://www.usdt.web.com

Ionizing Radiation Dosimetry

Accreditation Valid Through: December 31, 2002

This facility has been evaluated and deemed competent to process the radiation dosimeters listed below employing (1) USDT TLD Card Reader (2) Bar-Ray Film Developing System and USDT/Mini film densitometer, and (3) Harshaw Model 2000A TLD Chip Reader.

This facility is accredited to process the following dosimeters by virtue of actual demonstration of compliance with ANSI HPS N13.11-1993 through testing.

USDT-F (TLD-600) and USDT-U (TLD-700) for ANSI-N13.11 categories I, II, IIIA, IV, VA, VI, VII, VIII using (1).

USDT-3 Kodak type 2 film for ANSI-13.11 categories I, II, IIIA, IV, VA, VI, VII using (2).

This facility is accredited to process the following dosimeters by virtue of actual demonstration of compliance with ANSI N13.32 through testing:

USDT-R finger ring dosimeter for ANSI N13.32 category IV using (3).

NVLAP LAB CODE 100573-0

Proxtronics, Inc.

7200 Fullerton Road, Unit B-1
Springfield, VA 22150
Contact: Mr. W. Guy Davis
Phone: 703-425-4811
Fax: 703-455-5692
E-Mail: sales@Proxtronics.com
URL: http://www.proxtronics.com

Ionizing Radiation Dosimetry

Accreditation Valid Through: June 30, 2002

This facility has been evaluated and deemed competent to process the radiation dosimeters listed below through employing film processing using a Victoreen 07-440 densitometer and TLD processing using a Panasonic UD710A and UD717AS.

This facility is accredited to process the following dosimeters by virtue of actual demonstration of compliance with ANSI HPS N13.11-1993 through testing.

Film Badge (Kodak Type II) in Proxtronics custom holders GDS 400, for ANSI N13.11 categories IIIA, IV and VC.

Panasonic TLD model UD802-AS2 in an ISA 831, GDS 500, or UD875-ATM1 hanger for ANSI N13.11 categories I, II, IIIA, IV, VC, VI, VII, VIII.

Panasonic TLD model UD-817 in a Wallet Card Holder (Proxtronics Series 300) for ANSI N13.11 categories II and IV.

This facility has been accredited to process the extremity dosimeters listed below by virtue of actual demonstration of compliance with ANSI N13.32 - 1995 and NIST Handbook 150-4, page 14, Table 12 categories.

Panasonic extremity TLD model UD-817 in a finger ring strip holder (Proxtronics GSD 300) for categories I, II, IIIA, IVA, VA, VB, and VD.

(See 'How To Use This Directory' on page 7.)

NVLAP LAB CODE 101004-0

Analytics Corporation
8040 Villa Park Drive
Richmond, VA 23228
Contact: Mr. James A. Calpin, CIH
Phone: 804-264-7100
Fax: 804-264-8873
E-Mail: jcalpin@ix.netcom.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: March 31, 2002

NVLAP LAB CODE 101006-0

Advanced Industrial Hygiene Services, Inc.
2131 S.W. 2 Ave.
Miami, FL 33129-1411
Contact: Mr. Bruce Marchette
Phone: 305-854-7554
Fax: 305-285-0677
E-Mail: AIHS1@AOL.COM

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: March 31, 2002

NVLAP LAB CODE 101012-0

Dixon Information Inc.
78 West 2400 South
South Salt Lake, UT 84115-3013
Contact: Mr. Willard C. Dixon
Phone: 801-486-0800
Fax: 801-486-0849
E-Mail: dixoninformation@yahoo.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: March 31, 2002

NVLAP LAB CODE 101014-0

Aires Consulting Group, Inc.
1550 Hubbard
Batavia, IL 60510
Contact: Ms. Cynthia Darling
Phone: 630-879-3006
Fax: 630-879-3014
E-Mail: cindydarling@airesconsulting.com
URL: airesconsulting.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: June 30, 2002

Airborne Asbestos Analysis (TEM)
Accreditation Valid Through: June 30, 2002

NVLAP LAB CODE 101019-0

EA Group
7118 Industrial Park Blvd.
Mentor, OH 44060-5314
Contact: Mr. Carl R. Eggebraaten
Phone: 440-951-3514
Fax: 440-951-3774

URL: http://www.eagroup-ohio.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: March 31, 2002

NVLAP LAB CODE 101031-0

Fiberquant, Inc.
5025 S. 33rd St.
Phoenix, AZ 85040
Contact: Mr. Larry S. Pierce
Phone: 602-276-6139
Fax: 602-276-4558
E-Mail: FIBERQUANT@ABILNET.COM
URL: http://www.fiberq.com/labs/fq.htm

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: June 30, 2002

Airborne Asbestos Analysis (TEM)
Accreditation Valid Through: June 30, 2002

NVLAP LAB CODE 101032-0

Batta Laboratories, Inc.
Delaware Industrial Park
6 Garfield Way
Newark, DE 19713-5817
Contact: Mr. Naresh C. Batta
Phone: 302-737-3376
Fax: 302-737-5764
E-Mail: ncbatta@battaenv.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: June 30, 2002

Airborne Asbestos Analysis (TEM)
Accreditation Valid Through: June 30, 2002

NVLAP LAB CODE 101037-0

Microscopic Analysis, Inc.
11760 Westline Industrial Drive
St. Louis, MO 63146-3402
Contact: Mr. Douglas N. Nimmo
Phone: 314-993-2212
Fax: 314-993-3193
E-Mail: IHSI@COMPUSERVE.COM

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: March 31, 2002

(See 'How To Use This Directory' on page 7.)

NVLAP LAB CODE 101039-0

Davis Environmental Labs, Inc.

333 W. Wacker Drive, Suite 1400
Chicago, IL 60606-1226
Contact: Mr. Aleksey Torosin
Phone: 312-762-2937
Fax: 312-641-0818

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: September 30, 2002

Airborne Asbestos Analysis (TEM)
Accreditation Valid Through: September 30, 2002

NVLAP LAB CODE 101048-0

EMSL Analytical, Inc.

107 Haddon Avenue
Westmont, NJ 08108-2799
Contact: Mr. Stephen Siegel, CIH
Phone: 856-858-4800
Fax: 856-858-4960
E-Mail: ssiegel@emsl.com
URL: http://www.emsl.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: June 30, 2002

Airborne Asbestos Analysis (TEM)
Accreditation Valid Through: June 30, 2002

NVLAP LAB CODE 101048-1

EMSL Analytical, Inc.

1770 The Exchange SE, Suite 135
Atlanta, GA 30339
Contact: Richard White
Phone: 770-956-9150
Fax: 770-956-9181
E-Mail: RWhite@emsl.com
URL: http://www.emsl.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: June 30, 2002

Airborne Asbestos Analysis (TEM)
Accreditation Valid Through: June 30, 2002

NVLAP LAB CODE 101048-2

EMSL Analytical, Inc.

1056 Stelton Rd.
Piscataway, NJ 08854
Contact: Adrian Arav
Phone: 908-981-0550
Fax: 908-981-0551
E-Mail: piscatawaylab@emsl.com
URL: http://www.emsl.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: June 30, 2002

Airborne Asbestos Analysis (TEM)
Accreditation Valid Through: June 30, 2002

NVLAP LAB CODE 101048-3

EMSL Analytical, Inc.

382 South Abbott Avenue
Milpitas, CA 95035
Contact: Sean Fitzgerald
Phone: 408-934-7010
Fax: 408-934-7015

URL: http://www.emsl.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: June 30, 2002

Airborne Asbestos Analysis (TEM)
Accreditation Valid Through: June 30, 2002

NVLAP LAB CODE 101048-4

EMSL Analytical, Inc.

212 S. Wagner Road
Ann Arbor, MI 48103
Contact: Hildegard Hohnke
Phone: 734-668-6810
Fax: 734-668-8532
E-Mail: Hhohnke@emsl.com
URL: http://www.emsl.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: June 30, 2002

Airborne Asbestos Analysis (TEM)
Accreditation Valid Through: June 30, 2002

(See 'How To Use This Directory' on page 7.)

NVLAP LAB CODE 101048-9

EMSL Analytical, Inc.
307 W. 38th Street
New York, NY 10118
Contact: Jose Arriaga
Phone: 212-290-0051
Fax: 212-290-0058
E-Mail: jarriaga@emsl.com
URL: http://www.emsl.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: June 30, 2002

Airborne Asbestos Analysis (TEM)
Accreditation Valid Through: June 30, 2002

NVLAP LAB CODE 101048-10

EMSL Analytical, Inc.
208 Stone Henge Road
Carle Place, NY 11514
Contact: Michele McGowan
Phone: 516-997-7251
Fax: 516-997-7528

URL: http://www.emsl.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: June 30, 2002

Airborne Asbestos Analysis (TEM)
Accreditation Valid Through: June 30, 2002

NVLAP LAB CODE 101051-0

Accredited Environmental Technologies, Inc.
28 North Pennell Road
Media, PA 19063
Contact: Mr. Carl Josephson
Phone: 610-891-0114
Fax: 610-891-0559

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: March 31, 2002

NVLAP LAB CODE 101061-0

ChemScope, Inc.
15 Moulthrop Street
North Haven, CT 06473-3686
Contact: Mr. Ronald D. Arena
Phone: 203-865-5605
Fax: 203-498-1610
E-Mail: chem.scope@snet.net
URL: http://www.chem-scope.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: March 31, 2002

NVLAP LAB CODE 101066-0

Law Engineering and Environmental Services, Inc.
2100 Riverchase Center, Suite 450
Birmingham, AL 35244
Contact: Ms. Carol Rankin
Phone: 205-733-7671
Fax: 205-985-2951
E-Mail: crankin@lawco.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: March 31, 2002

NVLAP LAB CODE 101086-0

Analytica Solutions, Inc.
12189 Pennsylvania Street
Thornton, CO 80241
Contact: Mr. Steve Merritt
Phone: 303-469-8868 x123
Fax: 303-469-5254
E-Mail: smerritt@Analyticagroup.com
URL: http://www.analyticagroup.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: March 31, 2002

Airborne Asbestos Analysis (TEM)
Accreditation Valid Through: March 31, 2002

NVLAP LAB CODE 101103-0

Chatfield Technical Consulting Limited
2071 Dickson Road
Mississauga Ontario L5B 1Y8
CANADA
Contact: Dr. Eric J. Chatfield
Phone: 905-896-7611
Fax: 905-896-1930
E-Mail: echatfield@ejchatfield.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: March 31, 2002

NVLAP LAB CODE 101106-0

Clayton Group Services
4636 East Marginal Way South, Suite 215
Seattle, WA 98134-2331
Contact: Ms. Venetia Runnion
Phone: 206-763-7364
Fax: 206-763-4189
E-Mail: vrunnion @claytongrp.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: June 30, 2002

(See 'How To Use This Directory' on page 7.)

NVLAP LAB CODE 101109-0

Wisconsin Occupational Health Laboratory

2601 Agriculture Drive
P.O. Box 7996
Madison, WI 53707-7996
Contact: Mr. Lyle Reichmann
Phone: 608-224-6221
Fax: 608-224-6213
E-Mail: lr@mail.slh.wisc.edu

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: June 30, 2002

NVLAP LAB CODE 101111-0

City of Los Angeles Department of Water and Power

Dept. of Water and Power, Env. Lab.
PO Box 51111, 1630 N. Main St., Bldg. 7
Los Angeles, CA 90051-0100
Contact: Mr. Stanley M. Kung
Phone: 213-367-7270
Fax: 213-367-7285
E-Mail: stanley.kung@water.ladwp.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: March 31, 2002

NVLAP LAB CODE 101125-0

Clayton Group Services

3380 Chastain Meadows Pkwy., Suite 300
Kennesaw, GA 30144
Contact: Mr. Alan M. Segrave
Phone: 770-499-7500
Fax: 770-423-4990
E-Mail: aseg007@aol.com
URL: http://www.claytongrp.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: June 30, 2002

Airborne Asbestos Analysis (TEM)
Accreditation Valid Through: June 30, 2002

NVLAP LAB CODE 101130-0

TEM, Incorporated

443 Duane Street
Glen Ellyn, IL 60137
Contact: Mr. James Tuinenga
Phone: 630-790-0880
Fax: 630-790-0882
E-Mail: jimtcih@ameritech.net
URL: http://www.tem-inc.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: September 30, 2002

Airborne Asbestos Analysis (TEM)
Accreditation Valid Through: September 30, 2002

NVLAP LAB CODE 101135-0

McKee Environmental Health, Inc.

303 Westfield Lane
Friendswood, TX 77546-6316
Contact: Mr. Ronald S. McKee
Phone: 281-482-3403
Fax: 281-482-7203
E-Mail: mehi@wt.net

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: June 30, 2002

NVLAP LAB CODE 101136-0

American Medical Laboratories, Inc.

14225 Newbrook Drive
P.O. Box 10841
Chantilly, VA 20153-0841
Contact: Mr. Christopher Kase
Phone: 703-802-6900
Fax: 703-802-7041
E-Mail: ckase@aml.com
URL: http://www.aml.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: March 31, 2002

NVLAP LAB CODE 101143-0

AMA Analytical Services, Inc.

4475 Forbes Blvd.
Lanham, MD 20706
Contact: Mr. Andreas Saldivar
Phone: 301-459-2640
Fax: 301-459-2643
E-Mail: asaldivar@amalab.com
URL: http://www.amalab.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: June 30, 2002

Airborne Asbestos Analysis (TEM)
Accreditation Valid Through: June 30, 2002

NVLAP LAB CODE 101147-0

Hygienetics Laboratory Services

98 North Washington Street
Boston, MA 02114
Contact: Mr. Bryan Clark
Phone: 617-589-0660
Fax: 617-742-4285
E-Mail: lab@hygienetics.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: June 30, 2002

Airborne Asbestos Analysis (TEM)
Accreditation Valid Through: June 30, 2002

NVLAP LAB CODE 101150-0

Schneider Laboratories, Inc.
2512 W. Cary Street
Richmond, VA 23220-5117
Contact: Mr. Raja F. Abouzaki
Phone: 804-353-6778
Fax: 804-359-1475
E-Mail: rabouzaki@slabinc.com
URL: http://www.slabinc.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: March 31, 2002

NVLAP LAB CODE 101151-0

EMSL Analytical, Inc.
5125 Adanson Street, Suite 900
Orlando, FL 32804
Contact: Mr. A. Mark Antonelli
Phone: 407-599-5887
Fax: 407-599-9063

URL: http://www.emsl.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: June 30, 2002

Airborne Asbestos Analysis (TEM)
Accreditation Valid Through: June 30, 2002

NVLAP LAB CODE 101162-0

EcoSystems Environmental, Inc.
1408A Vantage Street
Carrollton, TX 75006
Contact: Mr. Bakhtiar Dargali
Phone: 972-416-0520
Fax: 972-416-4512

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: March 31, 2002

NVLAP LAB CODE 101165-0

International Asbestos Testing Laboratory
16000 Horizon Way, Unit 100
Mt. Laurel, NJ 08054
Contact: Mr. Frank E. Ehrenfeld, III
Phone: 856-231-9449
Fax: 856-231-9818
E-Mail: frankehrenfeld@iatl.com
URL: http://www.iatl.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: June 30, 2002

Airborne Asbestos Analysis (TEM)
Accreditation Valid Through: June 30, 2002

NVLAP LAB CODE 101170-0

Gelles Laboratories, Division, CC Technologies
6141 Avery Road
Dublin, OH 43016
Contact: Mr. Donald S. McKinney, Jr.
Phone: 614-761-1214
Fax: 614-761-1633
E-Mail: dmckinney@cctlabs.com
URL: http://www.cctechnologies.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: June 30, 2002

Airborne Asbestos Analysis (TEM)
Accreditation Valid Through: June 30, 2002

NVLAP LAB CODE 101187-0

ATC Associates Inc.
104 E. 25th Street 10th Floor
New York, NY 10010
Contact: Ms. Milena Lowd
Phone: 212-353-8280 x247
Fax: 212-353-3599
E-Mail: Lowd15@ATC-ENVIRO.COM

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: June 30, 2002

Airborne Asbestos Analysis (TEM)
Accreditation Valid Through: June 30, 2002

NVLAP LAB CODE 101188-0

Tremco, Inc. - Roofing Division, An RPM Company
3735 Green Road
Beachwood, OH 44122
Contact: Mr. Greg Rudolph
Phone: 216-766-5644
Fax: 216-765-6737

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: March 31, 2002

(See 'How To Use This Directory' on page 7.)

NVLAP LAB CODE 101192-0

Philip Environmental Services Corp.
210 West Sandbank Road
P.O. Box 230
Columbia, IL 62236-0230
Contact: Mr. Craig M. Brooks
Phone: 618-281-7173
Fax: 618-281-5120
E-Mail: cbrooks@contactpsc.com
URL: http://www.contactpsc.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: March 31, 2002

NVLAP LAB CODE 101199-0

HYGENIX, INC.
49 Woodside Street
Stamford, CT 06902-2411
Contact: Mr. Arthur Morris
Phone: 203-324-2222
Fax: 203-324-9857

URL: http://www.hygenix.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: December 31, 2002

NVLAP LAB CODE 101202-0

STAT Analysis Corporation
2201 W. Campbell Park Dr.
Chicago, IL 60612-3501
Contact: Dr. Surendra N. Kumar
Phone: 312-733-0551
Fax: 312-733-2386

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: June 30, 2002

Airborne Asbestos Analysis (TEM)
Accreditation Valid Through: June 30, 2002

NVLAP LAB CODE 101208-0

RJ Lee Group, Inc.
350 Hochberg Road
Monroeville, PA 15146-1516
Contact: Mr. Drew R. Van Orden
Phone: 724-325-1776
Fax: 724-733-1799
E-Mail: DREW@RJLG.COM
URL: http://www.RJLG.COM

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: June 30, 2002

Airborne Asbestos Analysis (TEM)
Accreditation Valid Through: June 30, 2002

NVLAP LAB CODE 101208-2

RJ Lee Group, Inc.
Bay Area Laboratory
530 McCormick Place
San Leandro, CA 94577
Contact: Dr. Benedict Schiefelbein
Phone: 510-567-0480
Fax: 510-567-0488

URL: http://www.RJLG.COM

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: June 30, 2002

Airborne Asbestos Analysis (TEM)
Accreditation Valid Through: June 30, 2002

NVLAP LAB CODE 101208-3

RJ Lee Group, Inc.
Manassas Laboratory
10503 Battleview Parkway
Manassas, VA 20109
Contact: Monica McCloy
Phone: 703-368-7880
Fax: 703-368-7761

URL: http://www.RJLG.COM

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: June 30, 2002

Airborne Asbestos Analysis (TEM)
Accreditation Valid Through: June 30, 2002

NVLAP LAB CODE 101216-0

CTL Environmental Services
24404 S. Vermont Avenue, Suite 307
Harbor City, CA 90710
Contact: Dr. Stuart E. Salot
Phone: 310-530-5006
Fax: 310-530-0792
E-Mail: salot@ctles.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: September 30, 2002

NVLAP LAB CODE 101218-0

EMS Laboratories, Inc.
117 West Bellevue Drive
Pasadena, CA 91105-2503
Contact: Ms. Bernadine M. Kolk
Phone: 626-568-4065
Fax: 626-796-5282
E-Mail: emslab2@aol.com
URL: http://www.emslabs.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: June 30, 2002

Airborne Asbestos Analysis (TEM)
Accreditation Valid Through: June 30, 2002

NVLAP LAB CODE 101221-0

Micro Air, Inc.
6320 La Pas Trail
Indianapolis, IN 46268-4104
Contact: Dr. Morris L.V. French
Phone: 317-293-1533
Fax: 317-290-3566
E-Mail: microair@microair.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: March 31, 2002

NVLAP LAB CODE 101222-0

Enviro-Probe, Inc.
2917 Bruckner Boulevard
Bronx, NY 10461
Contact: Dr. Ved P. Kukreja
Phone: 718-863-0045
Fax: 718-518-7454

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: December 31, 2002

NVLAP LAB CODE 101228-0

The Scott Lawson Group, Ltd.
29 River Road
P.O. Box 3304
Concord, NH 03302-3304
Contact: Mr. Ernest Rocha
Phone: 603-228-3610
Fax: 603-228-3871

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: June 30, 2002

NVLAP LAB CODE 101232-0

ERI Consulting Engineers, Inc.
2024 Republic Drive
P.O. Box 2024
Tyler, TX 75701-2024
Contact: Ms. Kathy R. Schosek
Phone: 903-534-5001
Fax: 903-534-8701
E-Mail: kathy@ericonsulting.com
URL: http://www.ericonsulting.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: June 30, 2002

NVLAP LAB CODE 101233-0

HIH Laboratory, Inc.
100 East NASA Road One, Suite 210
P.O. Box 57727
Webster, TX 77598
Contact: Mr. Jerry W. Bright
Phone: 281-338-9000
Fax: 281-338-2351
E-Mail: jerry@hihlaboratory.com
URL: http://www.hihlaboratory.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: March 31, 2002

NVLAP LAB CODE 101234-0

Braun Intertec Corporation
6875 Washington Avenue South
P.O. Box 39108
Minneapolis, MN 55439-0108
Contact: Mr. Steve Felton
Phone: 952-942-4912
Fax: 952-942-4844
E-Mail: sfelton@brauncorp.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: June 30, 2002

Airborne Asbestos Analysis (TEM)
Accreditation Valid Through: June 30, 2002

NVLAP LAB CODE 101235-0

Materials Analytical Services, Inc.
3945 Lakefield Court
Suwanee, GA 30024
Contact: Dr. William E. Longo
Phone: 770-866-3200
Fax: 770-866-3259
E-Mail: wlongo@mastest.com
URL: http://www.mastest.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: June 30, 2002

Airborne Asbestos Analysis (TEM)
Accreditation Valid Through: June 30, 2002

NVLAP LAB CODE 101237-0

Connecticut Department of Public Health Laboratory
Dept. of Public Health Laboratory
P.O. Box 1689
Hartford, CT 06144-1689
Contact: Dr. Kati Kelley
Phone: 860-509-8500
Fax: 860-509-8697
E-Mail: Kati.Kelley@po.state.CT.us

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: March 31, 2002

NVLAP LAB CODE 101247-0

Micro Analytical, Inc.
11521 W. North Ave.
Milwaukee, WI 53226
Contact: Mr. Jon Yakish
Phone: 414-771-0855
Fax: 414-771-6570

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: December 31, 2002

NVLAP LAB CODE 101249-0

Institute for Environmental Assessment
9201 West Broadway, Suite 600
Brooklyn Park, MN 55445
Contact: Ms. Yolanda Pope
Phone: 763-315-7900
Fax: 763-315-7920
E-Mail: yolandap@ieainstitute.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: June 30, 2002

NVLAP LAB CODE 101254-0

Roy F. Weston, Inc.
1625 Pumphrey Avenue
Auburn, AL 36832-4303
Contact: Mr. J. Stan Strickland
Phone: 334-826-6100
Fax: 334-826-8232
E-Mail: stricklj@mail.rfweston.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: March 31, 2002

NVLAP LAB CODE 101258-0

DCM Science Laboratory, Inc.
12421 W. 49th Ave., Unit 6
Wheat Ridge, CO 80033
Contact: Ms. Cindy Mefford
Phone: 303-463-8270
Fax: 303-463-8267
E-Mail: dcmscilab@aol.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: March 31, 2002

NVLAP LAB CODE 101261-0

Asbestos Analysis and Information Service, Inc.
603 North Baker Street
P.O. Box 837
Four Oaks, NC 27524
Contact: Mr. Stephen H. Westbrook
Phone: 919-963-2898
Fax: 919-963-2841
E-Mail: SWESTBROOK1@NC.RR.COM

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: March 31, 2002

NVLAP LAB CODE 101262-0

PSC Analytical Services
4418 Pottsville Pike
Reading, PA 19605
Contact: Mr. Michael Salum
Phone: 610-921-8833
Fax: 610-921-9667
E-Mail: msalum@contactpsc.com
URL: http://www.pscanalytical.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: September 30, 2002

NVLAP LAB CODE 101269-0

Volz Environmental Services, Inc.
1200 Gulf Lab Road
Pittsburgh, PA 15238-1304
Contact: Mr. George J. Skarupa
Phone: 412-826-8480
Fax: 412-826-8488
E-Mail: georgeskarupa@volzenvironmental.com
URL: http://www.volzenvironmental.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: June 30, 2002

NVLAP LAB CODE 101270-0

Pinchin Environmental Ltd.
5749 Coopers Ave.
Mississauga Ontario L4Z 1R9
CANADA
Contact: Ms. Wendy Bunner
Phone: 905-507-4850
Fax: 905-507-4884
E-Mail: wbunner@pinchin.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: September 30, 2002

NVLAP LAB CODE 101282-0

Mystic Air Quality Consultants, Inc.

1204 North Road
Groton, CT 06340
Contact: Mr. Christopher J. Eident
Phone: 860-449-8903
Fax: 860-449-8860
E-Mail: MAQC2@AOL.COM
URL: http://www.mysticair.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: September 30, 2002

NVLAP LAB CODE 101288-0

University (State) Hygienic Laboratory

University of Iowa
102 Oakdale Campus, #H101 OH
Iowa City, IA 52242-5002
Contact: Ms. Pamela A. Kostle
Phone: 319-335-4500
Fax: 319-335-4555
E-Mail: pamela-kostle@uiowa.edu
URL: http://www.uhl.uiowa.edu

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: June 30, 2002

NVLAP LAB CODE 101289-0

Omega Environmental Services

165 State Street
Hackensack, NJ 07601
Contact: Ms. Veronica Kero
Phone: 201-489-8700
Fax: 201-342-5412
E-Mail: Veronicaomega@att.net

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: March 31, 2002

NVLAP LAB CODE 101292-0

Northern Analytical Laboratories, Inc.

602 South 25th Street
P.O. Box 30315
Billings, MT 59107
Contact: Ms. Kathleen A. Smit
Phone: 406-254-7226
Fax: 406-254-1389
E-Mail: nlabs@wtp.net

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: March 31, 2002

NVLAP LAB CODE 101301-0

PMK Group, Inc.

65 Jackson Drive
P.O. Box 5000
Cranford, NJ 07016-5000
Contact: Mr. Stanley Lewandowski
Phone: 908-497-8900
Fax: 908-497-9134
E-Mail: slewandowski@pmkgroup.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: March 31, 2002

NVLAP LAB CODE 101323-0

PA DEP Bureau of Laboratories

P.O. Box 1467
Harrisburg, PA 17105-1467
Contact: Dr. Roger H. Carlson
Phone: 717-787-4669
Fax: 717-783-1502
E-Mail: Carlson.Roger@DEP.State.PA.US

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: March 31, 2002

NVLAP LAB CODE 101331-0

Kellco Services, Inc.

3137 Diablo Ave.
Hayward, CA 94545-2701
Contact: Ms. Heidi Fruhlinger
Phone: 510-786-9751
Fax: 510-786-9625
E-Mail: heidi@kellco.com
URL: http://www.kellco.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: March 31, 2002

NVLAP LAB CODE 101343-0

O'Brien & Gere Laboratories, Inc.

5000 Brittonfield Parkway
P.O. Box 4942
Syracuse, NY 13221
Contact: Mr. Michael J. Gerber
Phone: 315-437-0200
Fax: 315-463-7554
E-Mail: GerberMJ@OBG.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: June 30, 2002

NVLAP LAB CODE 101350-0

PSI
850 Poplar Street
Pittsburgh, PA 15220
Contact: Mr. Wayne Dickerson
Phone: 412-922-4010 x260
Fax: 412-922-4014

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: June 30, 2002

Airborne Asbestos Analysis (TEM)
Accreditation Valid Through: June 30, 2002

NVLAP LAB CODE 101375-0

Galson Laboratories
6601 Kirkville Road
P.O. Box 369
East Syracuse, NY 13057
Contact: Ms. Eva Galson
Phone: 315-432-5227
Fax: 315-437-0571
E-Mail: egalson@galsonlabs.com
URL: http://www.galsonlabs.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: March 31, 2002

NVLAP LAB CODE 101384-0

Health Science Associates
10771 Noel Street
Los Alamitos, CA 90720-2547
Contact: Ms. Jaime Steedman-Lyde
Phone: 714-220-3922
Fax: 714-220-2081
E-Mail: steedmanlyde@earthlink.net

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: June 30, 2002

NVLAP LAB CODE 101410-0

Davis & Floyd, Inc.
816 East Durst Street
P.O. Drawer 428
Greenwood, SC 29649
Contact: Mr. E. Carl Burrell, Jr.
Phone: 864-229-4413
Fax: 864-229-7119
E-Mail: cburrell@davisfloyd.com
URL: http://www.davisfloyd.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: March 31, 2002

NVLAP LAB CODE 101415-0

Larron Laboratory
529 Broadway
Cape Girardeau, MO 63701
Contact: Mr. Ronald E. Farrow
Phone: 573-334-8910
Fax: 573-334-8910
E-Mail: ron.farrow@larronlab.com
URL: www.larronlab.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: December 31, 2002

NVLAP LAB CODE 101421-0

Hillmann Environmental Group, L.L.C.
1600 Route 22 East
Union, NJ 07083-1597
Contact: Mr. Chaiyut Sae-Lao
Phone: 908-688-7800
Fax: 908-686-2636
E-Mail: saelao@hillmanngroup.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: September 30, 2002

NVLAP LAB CODE 101424-0

TRC Environmental Corporation
5 Waterside Crossing
Windsor, CT 06095
Contact: Mr. Lance R. Cotton
Phone: 860-298-9692
Fax: 860-298-6399
E-Mail: lcotton@TRCSolutions.com
URL: http://www.trcsolutions.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: June 30, 2002

NVLAP LAB CODE 101440-0

RI Analytical Laboratories, Inc.
41 Illinois Avenue
Warwick, RI 02888-3007
Contact: Mr. Eric Neff
Phone: 401-737-8500
Fax: 401-738-1970

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: March 31, 2002

NVLAP LAB CODE 101442-0

ASBESTECH

6825 Fair Oaks Blvd., Suite 103
Carmichael, CA 95608
Contact: Mr. Tommy Conlon
Phone: 916-481-8902
Fax: 916-481-3975
E-Mail: asbestoslab@hotmail.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: June 30, 2002

Airborne Asbestos Analysis (TEM)
Accreditation Valid Through: June 30, 2002

NVLAP LAB CODE 101457-0

Assaigai Analytical Laboratories, Inc.

7300 Jefferson NE
P.O. Box 90430
Albuquerque, NM 87199-0430
Contact: Mr. William P. Biava
Phone: 505-822-8061
Fax: 505-822-8063
E-Mail: bjbiava@swcp.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: June 30, 2002

NVLAP LAB CODE 101459-0

Forensic Analytical

3777 Depot Road, Suite 409
Hayward, CA 94545-2761
Contact: Mr. David Sandusky
Phone: 510-887-8828
Fax: 510-887-4218
E-Mail: Daves@forensica.com
URL: http://www.forensica.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: June 30, 2002

Airborne Asbestos Analysis (TEM)
Accreditation Valid Through: June 30, 2002

NVLAP LAB CODE 101459-1

Forensic Analytical Specialties, Inc.

2959 Pacific Commerce Drive
Rancho Dominguez, CA 90221
Contact: Matilde Antillon
Phone: 310-763-2374
Fax: 310-763-8684

URL: http://www.forensica.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: June 30, 2002

NVLAP LAB CODE 101463-0

Northern Testing Laboratories, Inc.

3330 Industrial Avenue
Fairbanks, AK 99701-7395
Contact: Mr. Michael R. Pollen
Phone: 907-456-3116
Fax: 907-456-3125
E-Mail: mrp@NTLALASKA.com
URL: http://www.NTLALASKA.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: March 31, 2002

NVLAP LAB CODE 101505-0

Los Angeles Unified School District

BSC Annex, Env. Health & Safety Branch
1449 So. San Pedro Street
Los Angeles, CA 90015
Contact: Ms. Greta Galoustian
Phone: 213-743-5086
Fax: 213-749-7201
E-Mail: ggaloust@lausd.k12.ca.us

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: September 30, 2002

Airborne Asbestos Analysis (TEM)
Accreditation Valid Through: September 30, 2002

NVLAP LAB CODE 101506-0

Environmental Health Laboratories

St. Louis County Department of Health
111 So. Meramec
Clayton, MO 63105-1711
Contact: Dr. Robert A. Nicolotti
Phone: 314-615-6830
Fax: 314-615-1648
E-Mail: robert_nicolotti@stlouisco.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: December 31, 2002

NVLAP LAB CODE 101510-0

Fibertec, Inc.

4291 Veterans Way, Suite A
Holt, MI 48842
Contact: Mr. Phillip A. Peterson
Phone: 517-699-0345 x201
Fax: 517-699-0388
E-Mail: asbestos@fibertec-usa.com
URL: http://www.asbestos@fibertec-usa.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: December 31, 2002

NVLAP LAB CODE 101514-0

EnviroMed Services, Inc.
25 Science Park
New Haven, CT 06511
Contact: Mr. Joseph Pasquariello
Phone: 203-786-5580
Fax: 203-786-5579

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: June 30, 2002

NVLAP LAB CODE 101515-0

Law Engineering and Environmental Services, Inc.
4919 West Laurel Street
Tampa, FL 33607
Contact: Mr. Monte Hall
Phone: 813-289-0750
Fax: 813-289-5474
E-Mail: mhall@lawco.com
URL: http://www.law-USA.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: March 31, 2002

NVLAP LAB CODE 101515-1

Law Engineering and Environmental Services, Inc.
5845 N.W. 158th Street
Miami Lakes, FL 33014
Contact: Chris DuBour
Phone: 305-826-5588
Fax: 305-826-1799

URL: http://www.law-USA.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: March 31, 2002

NVLAP LAB CODE 101523-0

DHMH-Air Quality Laboratory
201 West Preston Street
P.O. Box 2355
Baltimore, MD 21201-2355
Contact: Ms. Yvonne Tai-Sen-Choy
Phone: 410-767-5948
Fax: 410-333-5237
E-Mail: taisenchoyy@DHMH.state.md.us
URL: http://www.charm.net/~epi6/labs.htm

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: March 31, 2002

NVLAP LAB CODE 101539-0

Puget Sound Naval Shipyard
Code 134, Bldg. 371
1400 Farragut Ave.
Bremerton, WA 98314-5000
Contact: Mr. Gary Brunson
Phone: 360-476-8091
Fax: 360-476-5587
E-Mail: brunsong@psns.navy.mil

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: March 31, 2002

NVLAP LAB CODE 101545-0

Nova Consulting Group, Inc.
1107 Hazeltine Boulevard, Suite 400
Chaska, MN 55318-1008
Contact: Mr. Steve Cummings
Phone: 952-448-9393
Fax: 952-448-9572
E-Mail: steve.cummings@novaconsulting.com
URL: http://www.novaconsulting.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: March 31, 2002

NVLAP LAB CODE 101567-0

South Coast Air Quality Management District
21865 E. Copley Drive
Diamond Bar, CA 91765-4182
Contact: Ms. Corazon B. Choa
Phone: 909-396-2172
Fax: 909-396-2175
E-Mail: cchoa@aqmd.gov

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: March 31, 2002

NVLAP LAB CODE 101578-0

AGX, Inc.
207 Pine Creek Road
Wexford, PA 15090-9228
Contact: Mr. Daniel Winkle
Phone: 724-934-4249
Fax: 724-934-5677

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: March 31, 2002

NVLAP LAB CODE 101580-0

Air Quality Laboratories
4301 N.W. 63rd Street, Suite 201
Oklahoma City, OK 73116
Contact: Mr. Phillip Dang
Phone: 405-767-0660
Fax: 405-767-0661

URL: http://www.airqualitylabs.net

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: June 30, 2002

NVLAP LAB CODE 101587-0

Environmental Enterprise Group(EEG), Inc.
220 North Knoxville, Suite 200
Russellville, AR 72801
Contact: Mr. Keith Zimmerman
Phone: 501-968-6767
Fax: 501-968-1956
E-Mail: KZimmerman@3wco.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: June 30, 2002

NVLAP LAB CODE 101593-0

National Environmental Reference Laboratory
C/O US Geological Survey, MS PHL/NERL
P.O. Box 25046
Denver, CO 80225-0046
Contact: Mr. Bruce Hills
Phone: 303-236-3455 x500
Fax: 303-236-3440
E-Mail: bhills@foh.dhhs.gov

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: March 31, 2002

NVLAP LAB CODE 101594-0

TolTest, Inc.
1915 North 12th Street
P.O. Box 2186
Toledo, OH 43624-1305
Contact: Ms. Susan Pellitieri
Phone: 419-241-7175
Fax: 419-241-1808
E-Mail: spellitieri@toltest.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: March 31, 2002

NVLAP LAB CODE 101595-0

Envirotest, Inc.
3902 Braxton
Houston, TX 77063-6304
Contact: Dr. James D. Murphy
Phone: 713-782-4411
Fax: 713-782-3428
E-Mail: murphy@envirotestinc.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: March 31, 2002

NVLAP LAB CODE 101611-0

Applied Environmental, Inc.
11800 Sunrise Valley Drive, Suite 1200
Reston, VA 20191
Contact: Ms. Jana H. Ambrose
Phone: 703-648-0822
Fax: 703-648-0575
E-Mail: http://www.appenv.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: September 30, 2002

NVLAP LAB CODE 101618-0

Ambient Group, Inc.
10 Morris Ave.
Glen Cove, NY 11542
Contact: Mr. William Esposito, Jr.
Phone: 516-609-0009
Fax: 212-944-4618

URL: http://www.Ambientgroup.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: September 30, 2002

NVLAP LAB CODE 101631-0

Pacific Rim Environmental, Inc.
6510 Southcenter Boulevard
Tukwila, WA 98188
Contact: Mr. William F. Golloway
Phone: 206-244-8965
Fax: 206-244-9096

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: March 31, 2002

NVLAP LAB CODE 101646-0

Eastern Analytical Services, Inc.
4 Westchester Plaza
Elmsford, NY 10523-1610
Contact: Mr. Paul Stascavage
Phone: 914-592-8380
Fax: 914-592-8956
E-Mail: PaulS@EASInc.com
URL: http://www.EASInc.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: September 30, 2002

Airborne Asbestos Analysis (TEM)
Accreditation Valid Through: September 30, 2002

NVLAP LAB CODE 101649-0

Asbestos Consulting & Testing (ACT)
14953 West 101st Terrace
Lenexa, KS 66215
Contact: Ms. Tami L. Van
Phone: 913-492-1337
Fax: 913-492-1392

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: March 31, 2002

NVLAP LAB CODE 101703-0

U.S. EPA - National Enforcement Investigations Center
Box 25227 Bldg. 53, Denver Federal Ctr.
Denver, CO 80225
Contact: Ms. Peggy J. Forney
Phone: 303-236-6079
Fax: 303-236-5116
E-Mail: forney.peggy@epa.gov

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: September 30, 2002

NVLAP LAB CODE 101727-0

AnalyticaLab
8270 Archer Avenue
Willow Springs, IL 60480
Contact: Mr. Justin Laughlin
Phone: 708-839-1338
Fax: 708-839-6970

URL: http://www.analyticalab.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: March 31, 2002

NVLAP LAB CODE 101732-0

United Analytical Services, Inc.
1515 Centre Circle Drive
Downers Grove, IL 60515-1024
Contact: Dr. Kevin Aikman
Phone: 630-691-8271
Fax: 630-691-1819
E-Mail: uasinc@uas1.com
URL: http://www.uasinc@uas1.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: June 30, 2002

Airborne Asbestos Analysis (TEM)
Accreditation Valid Through: June 30, 2002

NVLAP LAB CODE 101735-0

Analytical Environmental Services
2105 Nathan Drive
Austin, TX 78728-4530
Contact: Ms. Jimmie Ann Bolton
Phone: 512-251-8388
Fax: 512-251-8388
E-Mail: jabolton@earthlink.net

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: June 30, 2002

NVLAP LAB CODE 101759-0

Comprehensive Health Services-Environmental Health PLM Laboratory
Environmental Health PLM Laboratory
CHS-022
Kennedy Space Center, FL 32899
Contact: Ms. Joanne W. Creech
Phone: 321-867-9014
Fax: 321-867-3694
E-Mail: joanne.creech-1@kmail.ksc.nasa.gov

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: September 30, 2002

NVLAP LAB CODE 101768-0

Carolina Environmental, Inc.
102-H Commonwealth Court
Cary, NC 27511
Contact: Dr. Tianbao Bai
Phone: 919-481-1413
Fax: 919-481-1442

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: March 31, 2002

NVLAP LAB CODE 101775-0

American Asbestos Laboratories, Inc.

14505 Commerce Way, Suite 400
Miami Lakes, FL 33016
Contact: Dr. Daniel J. Cottrell
Phone: 305-374-8300
Fax: 305-374-9004
E-Mail: dcottrell@eeandg.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: March 31, 2002

NVLAP LAB CODE 101781-0

Covino Environmental Associates, Inc.

300 Wildwood Avenue
Woburn, MA 01801
Contact: Ms. Ann D. Eckmann
Phone: 781-933-2555
Fax: 781-932-9402
E-Mail: aeckmann@covinoinc.com
URL: http://www.covinoinc.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: June 30, 2002

NVLAP LAB CODE 101793-0

A & B Environmental Services, Inc.

1643 Federal Road
Houston, TX 77015
Contact: Mr. Robert L. Voorhies
Phone: 713-453-6060
Fax: 713-453-6091
E-Mail: aandblab@flash.net
URL: http://www.ABLABS.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: December 31, 2002

NVLAP LAB CODE 101807-0

EnvironMETeo Services Inc.

94-520 Ukee Street, #A
Waipahu, HI 96797
Contact: Mr. Clifford How
Phone: 808-671-8383
Fax: 808-671-7979
E-Mail: emet@aloha.net

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: June 30, 2002

NVLAP LAB CODE 101848-0

Environmental Testing, Inc.

100 South Cass Street
P.O. Box 138
Middletown, DE 19709-0138
Contact: Ms. Lee Ann Shinaberry
Phone: 302-378-9881
Fax: 302-378-9107
E-Mail: LEEANN.ECSI@DEL.NET

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: September 30, 2002

NVLAP LAB CODE 101853-0

RCM Laboratories, Inc.

5400 East Avenue, Second Floor
Countryside, IL 60525
Contact: Mr. Thomas P. Marlin
Phone: 708-485-8600
Fax: 708-485-8607

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: June 30, 2002

NVLAP LAB CODE 101864-0

Design for Health Environmental Services

3574 Kettner Blvd.
San Diego, CA 92101
Contact: Mr. Kabir Shefa
Phone: 619-291-1777
Fax: 619-291-4318
E-Mail: DFHPRD@AOL.COM

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: December 31, 2002

NVLAP LAB CODE 101868-0

Bella Donna Labs Inc.

Environmental Consultants and Laboratory
3031 North 114th Street
Wauwatosa, WI 53222
Contact: Mr. Joseph F. Anzlovar
Phone: 312-356-5400 x148
Fax: 312-356-5499

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: September 30, 2002

NVLAP LAB CODE 101870-0

Sun City Analytical, Inc.
1409 Montana
El Paso, TX 79902-5617
Contact: Ms. Priscilla Acuna
Phone: 915-533-8840
Fax: 915-533-8843
E-Mail: scai@flash.net

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: September 30, 2002

NVLAP LAB CODE 101871-0

Apollo Environmental, Inc.
11553 U.S. Highway 41 South
P.O. Box 239
Gibsonton, FL 33534-9720
Contact: Mr. Michael L. Williamson
Phone: 813-671-3999
Fax: 813-677-3422
E-Mail: mwilliamson@apolloenv.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: September 30, 2002

NVLAP LAB CODE 101872-0

Micro Analytical Laboratories, Inc.
5900 Hollis Street, Suite M
Emeryville, CA 94608-2008
Contact: Mr. Frank Raviola
Phone: 510-653-0824
Fax: 510-653-1361
E-Mail: microlab@labmicro.com
URL: http://www.labmicro.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: September 30, 2002

Airborne Asbestos Analysis (TEM)
Accreditation Valid Through: September 30, 2002

NVLAP LAB CODE 101882-0

Environmental Hazards Services, L.L.C.
7469 White Pine Road
Richmond, VA 23237
Contact: Ms. Irma Faszewski
Phone: 804-275-4788
Fax: 804-275-4907
E-Mail: managerqaqc@leadlab.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: December 31, 2002

NVLAP LAB CODE 101884-0

Concord Analysis, Inc.
9960 Canoga Ave., Suite D8
Chatsworth, CA 91311-6704
Contact: Ms. Johanna Fann
Phone: 818-407-0128
Fax: 818-882-9409

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: March 31, 2002

NVLAP LAB CODE 101890-0

Mountain Laboratories
9922 East Montgomery, Suite 1
Spokane, WA 99206
Contact: Ms. Karen L. Drader
Phone: 509-924-9236
Fax: 509-924-2287
E-Mail: mcskaren@myavista.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: September 30, 2002

NVLAP LAB CODE 101891-0

Asbestos TEM Laboratories, Inc.
1409 Fifth Street, Suite C
Berkeley, CA 94710
Contact: Mr. R. Mark Bailey
Phone: 510-528-0108
Fax: 510-528-0109
E-Mail: MBaileyASB@aol.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: June 30, 2002

Airborne Asbestos Analysis (TEM)
Accreditation Valid Through: June 30, 2002

NVLAP LAB CODE 101894-0

Midwest Laboratories, Inc.
6246 Joliet Road, Suite 4
Countryside, IL 60525
Contact: Mr. James P. Hahn
Phone: 708-354-7117
Fax: 708-354-7142

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: September 30, 2002

Airborne Asbestos Analysis (TEM)
Accreditation Valid Through: September 30, 2002

(See 'How To Use This Directory' on page 7.)

NVLAP LAB CODE 101895-0

McCall and Spero Environmental, Inc.

13005 Middletown Industrial Blvd.
Suite H
Louisville, KY 40223
Contact: Mr. R. Dale McCall
Phone: 502-244-7135
Fax: 502-244-7136
E-Mail: rdmccall@mselabs.com
URL: http://www.mselabs.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: June 30, 2002

Airborne Asbestos Analysis (TEM)
Accreditation Valid Through: June 30, 2002

NVLAP LAB CODE 101896-0

Reservoirs Environmental Services, Inc.

2059 Bryant Street
Denver, CO 80211
Contact: Ms. Jeanne Spencer Orr
Phone: 303-964-1986
Fax: 303-477-4275
E-Mail: jeanneorr@resienv.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: June 30, 2002

Airborne Asbestos Analysis (TEM)
Accreditation Valid Through: June 30, 2002

NVLAP LAB CODE 101902-0

E. M. Analytical, Inc.

8000 North Ocean Drive
Dania, FL 33004-3078
Contact: Ms. Pat Blackwelder
Phone: 305-751-1184
Fax: 954-921-6747
E-Mail: pblackwelder@rsmas.miami.edu

Airborne Asbestos Analysis (TEM)
Accreditation Valid Through: June 30, 2002

NVLAP LAB CODE 101904-0

Scientific Laboratories, Inc.

13635 Genito Road
Midlothian, VA 23112
Contact: Dr. Thomas R. McKee
Phone: 804-763-1200
Fax: 804-763-1800
E-Mail: tmckee@scilabs.com
URL: http://www.scilabs.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: June 30, 2002

Airborne Asbestos Analysis (TEM)
Accreditation Valid Through: June 30, 2002

NVLAP LAB CODE 101904-1

Scientific Laboratories, Inc.

117 East 30th Street
New York, NY 10016
Contact: Paul Mucha
Phone: 212-679-8600
Fax: 212-679-9392
E-Mail: pmucha@scilabs.com
URL: http://www.scilabs.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: June 30, 2002

Airborne Asbestos Analysis (TEM)
Accreditation Valid Through: June 30, 2002

NVLAP LAB CODE 101909-0

Analytical Labs San Francisco, Inc.

467 Potrero Avenue
San Francisco, CA 94110
Contact: Ms. Olga Kist
Phone: 415-552-4595
Fax: 415-552-0730
E-Mail: alsfok@msn.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: March 31, 2002

NVLAP LAB CODE 101917-0

DataChem Laboratories

4388 Glendale-Milford Road
Cincinnati, OH 45242-3706
Contact: Ms. Anna Marie Ristich
Phone: 513-733-5336
Fax: 513-733-5347
E-Mail: amristich@datachemlabs.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: September 30, 2002

Airborne Asbestos Analysis (TEM)
Accreditation Valid Through: September 30, 2002

NVLAP LAB CODE 101920-0

Lab/Cor, Inc.
7619 Sixth Avenue, NW
Seattle, WA 98117
Contact: Mr. John Harris
Phone: 206-781-0155
Fax: 206-789-8424
E-Mail: mail@labcor.net
URL: http://www.labcor.net

Airborne Asbestos Analysis (TEM)
Accreditation Valid Through: September 30, 2002

NVLAP LAB CODE 101926-0

Environmental Management Consultants, Inc.
7342 East Thomas Road
Scottsdale, AZ 85251-7216
Contact: Mr. Kurt A. Kettler
Phone: 480-990-2069
Fax: 480-990-8468
E-Mail: kkettler@earthlink.net

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: June 30, 2002

NVLAP LAB CODE 101941-0

Kevco Services, Inc.
890 Pittsburgh Road
Butler, PA 16002-8901
Contact: Mr. George M. Beck
Phone: 724-586-6343
Fax: 724-586-2172

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: June 30, 2002

NVLAP LAB CODE 101948-0

MACS Lab, Inc.
2070A Walsh Avenue
Santa Clara, CA 95050-2531
Contact: Mr. James A. Richards
Phone: 408-727-9727
Fax: 408-727-7065
E-Mail: jrichards@macslab.com
URL: http://www.macslab.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: March 31, 2002

Airborne Asbestos Analysis (TEM)
Accreditation Valid Through: March 31, 2002

NVLAP LAB CODE 101949-0

LEX Scientific Inc.
2 Quebec Street, Suite 204
Guelph Ontario N1H 2T3
CANADA
Contact: Ms. Kim O'Neill
Phone: 519-824-7082
Fax: 519-824-5784
E-Mail: koneill@lexscientific.com
URL: http://www.lexscientific.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: March 31, 2002

NVLAP LAB CODE 101950-0

WKP Laboratories, Inc.
228 E. 45th St. 10 Floor
New York City, NY 10017
Contact: Mr. Fabio J. Pedone
Phone: 212-922-0077
Fax: 212-922-0630

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: September 30, 2002

NVLAP LAB CODE 101953-0

JLC Environmental Consultants, Inc.
200 Park Avenue South, Suite 1001
New York, NY 10003
Contact: Ms. Jennifer Carey
Phone: 212-420-8119
Fax: 212-420-6092
E-Mail: JLCenviron@aol.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: September 30, 2002

NVLAP LAB CODE 101958-0

Athenica Environmental Services, Inc.
45-09 Greenpoint Avenue
Long Island City, NY 11104
Contact: Mr. Spiro Dongaris
Phone: 718-784-7490
Fax: 718-784-4085

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: June 30, 2002

Airborne Asbestos Analysis (TEM)
Accreditation Valid Through: June 30, 2002

NVLAP LAB CODE 101959-0

QuanTEM Laboratories, LLC
2033 Heritage Park Drive
Oklahoma City, OK 73120-7579
Contact: Mr. John E. Barnett
Phone: 405-755-7272
Fax: 405-755-2058
E-Mail: jbarnett@quantem.com
URL: http://www.quantem.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: September 30, 2002

Airborne Asbestos Analysis (TEM)
Accreditation Valid Through: September 30, 2002

NVLAP LAB CODE 101967-0

NY Environmental & Analytical Labs, Inc.
88 Harbor Road
Port Washington, NY 11050
Contact: Mr. Li Tsang
Phone: 516-944-9500
Fax: 516-944-9507
E-Mail: NYEA@YAHOO.COM

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: June 30, 2002

NVLAP LAB CODE 101977-0

ACM Environmental, Inc.
26598 US-20 West
South Bend, IN 46628
Contact: Mr. Michael A. Dials
Phone: 219-234-8435
Fax: 219-234-6800
E-Mail: lab@acmenv.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: June 30, 2002

NVLAP LAB CODE 101990-0

Iowa Environmental Services, Inc.
4801 Grand Avenue
Des Moines, IA 50312
Contact: Mr. Richard E. Soyer
Phone: 515-279-8042
Fax: 515-279-1853
E-Mail: ies@gateway.net

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: June 30, 2002

NVLAP LAB CODE 101997-0

Hygieneering, Inc.
7575 Plaza Court
Willowbrook, IL 60521
Contact: Ms. Jacqueline M. Cadwallader
Phone: 630-654-2550
Fax: 630-789-3813
E-Mail: jcadwallader@hygieneering.com
URL: http://www.hygieneering.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: September 30, 2002

NVLAP LAB CODE 102000-0

Louisiana Department of Environmental Quality Microanalytical Lab
Microanalytical Lab
8000 GSRI Avenue, Building #402
Baton Rouge, LA 70820
Contact: Ms. Pamela D. Ellis
Phone: 225-765-5099
Fax: 225-765-0048
E-Mail: pame@deq.state.la.us/

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: March 31, 2002

NVLAP LAB CODE 102001-0

Testing Mechanics Corp.
3770 Merrick Road
Seaford, NY 11783-2815
Contact: Mr. Kevin Tumulty
Phone: 516-221-3800
Fax: 516-221-3810
E-Mail: LITUMULTY@AOL.COM

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: March 31, 2002

NVLAP LAB CODE 102003-0

GLE Associates, Inc.
1451 Channelside Drive, Suite 200
Tampa, FL 33605
Contact: Ms. Jennifer Fowler
Phone: 813-241-8350
Fax: 813-241-8737
E-Mail: fowler@gleassociates.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: March 31, 2002

NVLAP LAB CODE 102005-0

University of Alabama Asbestos Laboratory
Bryant Drive - Martha Parham West
P.O. Box 870388
Tuscaloosa, AL 35487-0388
Contact: Ms. Freda Griffis
Phone: 205-348-8571
Fax: 205-348-9878
E-Mail: fgriffis@ccs.ua.edu
URL: http://bama.ua.edu/~deip/envprogs.html#LAB

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: December 31, 2002

NVLAP LAB CODE 102006-0

Solar Environmental Services, Inc.
1131 E. 76th Avenue, Suite 102
Anchorage, AK 99518
Contact: Ms. Gracita O. Torrijos
Phone: 907-349-7705
Fax: 907-349-7944
E-Mail: sesenvir@alaska.net
URL: http://www.alaska.net/~sesenvir

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: March 31, 2002

NVLAP LAB CODE 102008-0

Micro Air of Texas, Inc.
1052 Hercules Drive
Houston, TX 77058
Contact: Mr. Eric Eitzen
Phone: 281-280-9965
Fax: 281-280-9847

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: March 31, 2002

NVLAP LAB CODE 102010-0

Fluor Fernald, Inc., Analytical Laboratory Services
P.O. Box 538704
Cincinnati, OH 45253-8704
Contact: Ms. Amy Meyer
Phone: 513-648-5423
Fax: 513-648-5198
E-Mail: amy_meyer@fernald.gov

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: March 31, 2002

NVLAP LAB CODE 102011-0

Airtek Environmental Corp.
39 West 38th Street, 12th Floor
New York, NY 10018
Contact: Mr. Saad Zouak
Phone: 212-768-0516
Fax: 212-768-0759
E-Mail: mzouak@airtekenv.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: March 31, 2002

NVLAP LAB CODE 102012-0

JMS Environmental Associates, Ltd.
816 Burr Oak Drive
Westmont, IL 60559
Contact: Mr. John Aschbacher
Phone: 630-655-8500
Fax: 630-655-8724
E-Mail: jms@starnetinc.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: March 31, 2002

Airborne Asbestos Analysis (TEM)
Accreditation Valid Through: March 31, 2002

NVLAP LAB CODE 102013-0

Hi-Tech Environmental and Laboratory Services
DBA Hi-Tech Environmental & Lab. Srvs.
5396 Lincoln Ave., Suite A
Cypress, CA 90630
Contact: Ms. Gwenda Hatcher
Phone: 714-827-0693
Fax: 714-827-0695
E-Mail: Hitechol@ix.netcom.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: December 31, 2002

NVLAP LAB CODE 102021-0

Safe Environment of America, Inc.
dba Med-Tox Northwest
3902 West Valley Highway North, Ste. 502
Auburn, WA 98002
Contact: Ms. Kimberly Brooks
Phone: 253-351-0677
Fax: 253-351-0688
E-Mail: medtoxnw@msn.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: June 30, 2002

NVLAP LAB CODE 102029-0

ESG Laboratories

5933 W. 71st Street
Indianapolis, IN 46278
Contact: Ms. Mary Dunlap
Phone: 317-290-1471
Fax: 317-290-1670
E-Mail: mdunlap@astburygroup.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: December 31, 2002

NVLAP LAB CODE 102031-0

ATC Associates, Inc.

6746 South Revere Parkway, Suite 180
Englewood, CO 80112-6708
Contact: Mr. Jeffrey Lomme
Phone: 303-799-6100
Fax: 303-799-3441

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: June 30, 2002

NVLAP LAB CODE 102035-0

Law Engineering and Environmental Services, Inc.

4634 S. 36th Place
Phoenix, AZ 85040
Contact: Mr. Michael A. Cook
Phone: 602-437-0250
Fax: 602-437-3675
E-Mail: mcook@lawco.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: March 31, 2002

NVLAP LAB CODE 102041-0

R. Robinson Analytical Services, Inc.

1960 Peyton Drive
Pensacola, FL 32503
Contact: Mr. William F. Robin Robinson
Phone: 850-438-5552
Fax: 850-432-7394

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: March 31, 2002

NVLAP LAB CODE 102044-0

Loflin Environmental Services,Inc.

2020 Montrose, Suite 100
Houston, TX 77006
Contact: Mr. James Murray
Phone: 713-521-3300
Fax: 713-523-0829
E-Mail: loflin1@attglobal.net

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: March 31, 2002

NVLAP LAB CODE 102046-0

Criterion Laboratories, Inc.

3370 Progress Drive, Suite J
Bensalem, PA 19020
Contact: Mr. Stephen J. Sieracki
Phone: 215-244-1300 x30
Fax: 215-244-4349
E-Mail: ssieracki@criterionlabs.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: June 30, 2002

NVLAP LAB CODE 102047-0

KAM Consultants

35-40 36th Street
Long Island City, NY 11106
Contact: Mr. George Kouvaras
Phone: 718-729-1997
Fax: 718-729-1876
E-Mail: gekouvaras@aol.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: June 30, 2002

Airborne Asbestos Analysis (TEM)
Accreditation Valid Through: June 30, 2002

NVLAP LAB CODE 102050-0

Occupational Health Conservation, Inc.

1840 Southside Blvd., Suite 3C
Jacksonville, FL 32216-0317
Contact: Mr. Gregory Davis
Phone: 904-725-8279
Fax: 904-721-2809
E-Mail: gdavis_phc@hotmail.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: March 31, 2002

(See 'How To Use This Directory' on page 7.)

NVLAP LAB CODE 102053-0

Dove Environmental Corporation
4715 NW 157th Street, Suite 203
Miami, FL 33014
Contact: Mr. Rajendranath Ramnath
Phone: 305-620-6050
Fax: 305-620-6350

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: March 31, 2002

NVLAP LAB CODE 102056-0

Steve Moody Micro Services, Inc.
1510 Randolph St., Suite #602
Carrollton, TX 75006
Contact: Mr. Steve Moody
Phone: 972-446-9482
Fax: 972-446-9870
E-Mail: SMMS1@AIRMAIL.NET

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: June 30, 2002

Airborne Asbestos Analysis (TEM)
Accreditation Valid Through: June 30, 2002

NVLAP LAB CODE 102061-0

Omni Environmental, Inc.
13740 Research Blvd., Suite H-5
Austin, TX 78750
Contact: Mr. Joseph Mink
Phone: 512-258-9114
Fax: 512-258-9115
E-Mail: omnienv@austin.rr.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: June 30, 2002

NVLAP LAB CODE 102062-0

National Econ Corporation
730 El Camino Real
Tustin, CA 92780
Contact: Mr. Mark S. Ervin
Phone: 714-730-9235
Fax: 714-730-9236
E-Mail: NationalEconCorp@earthlink.net

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: December 31, 2002

NVLAP LAB CODE 102063-0

NVL Laboratories, Inc.
4708 Aurora Avenue N.
Seattle, WA 98103
Contact: Mr. Nghiep Vi Ly
Phone: 206-547-0100
Fax: 206-634-1936
E-Mail: munaf@nvllabs.com
URL: http://www.nvllabs.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: September 30, 2002

NVLAP LAB CODE 102065-0

Wonder Makers Environmental Inc.
2117 Lane Boulevard
P.O. Box 50209
Kalamazoo, MI 49005-0209
Contact: Dr. Michael Pinto
Phone: 616-382-4154
Fax: 616-382-4161
E-Mail: info@wondermakers.com
URL: http://www.wondermakers.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: September 30, 2002

NVLAP LAB CODE 102073-0

Triad Environmental Consulting, Inc.
309 3rd Avenue
Huntington, WV 25701
Contact: Mr. Brian E. Galligan
Phone: 304-523-2195
Fax: 304-523-2197
E-Mail: Duxster@earthlink.net

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: June 30, 2002

NVLAP LAB CODE 102075-0

S&ME, Inc.
9751 Southern Pine Boulevard
P.O. Box 7668
Charlotte, NC 28241-7668
Contact: Ms. Jane Wasilewski
Phone: 704-523-4726
Fax: 704-525-3953
E-Mail: jwasilewski@smeinc.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: December 31, 2002

(See 'How To Use This Directory' on page 7.)

NVLAP LAB CODE 102077-0

Palmetto Laboratory, Inc.
2351 Fifth Avenue North
St. Petersburg, FL 33713
Contact: Mr. John J. Henderson
Phone: 727-328-9850
Fax: 727-328-9830

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: December 31, 2002

NVLAP LAB CODE 102078-0

FRS Geotech, Inc.
1441 West 46th Avenue, Suite 14
Denver, CO 80211-2338
Contact: Mr. Joseph Fischer
Phone: 303-477-2559
Fax: 303-477-2580
E-Mail: frsgeo@ix.netcom.com
URL: http://www.netcom.com/frsgeo

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: December 31, 2002

NVLAP LAB CODE 102079-0

SCILAB BOSTON, Inc.
8 School Street
East Weymouth, MA 02189
Contact: Mr. John Sulkowski
Phone: 781-337-9334
Fax: 781-337-7642
E-Mail: jsulkowski@scilabs.com
URL: http://www.SCILABS.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: June 30, 2002

Airborne Asbestos Analysis (TEM)
Accreditation Valid Through: June 30, 2002

NVLAP LAB CODE 102081-0

Legend Technical Services, Inc.
775 Vandalia Street
St. Paul, MN 55114
Contact: Ms. Cheryl Sykora
Phone: 651-642-1150
Fax: 651-642-1239
E-Mail: cas@legend-group.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: March 31, 2002

NVLAP LAB CODE 102082-0

Analytical Environmental Services, Inc.
3125 Marjan Drive
Atlanta, GA 30340
Contact: Mr. Mehmet Yildirim
Phone: 800-972-4889
Fax: 770-457-8188

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: September 30, 2002

Airborne Asbestos Analysis (TEM)
Accreditation Valid Through: September 30, 2002

NVLAP LAB CODE 102083-0

Twin Ports Testing, Inc.
1301 N. 3rd Street
Superior, WI 54880-1131
Contact: Mr. Greg Heinecke
Phone: 715-392-7114
Fax: 715-392-7163
E-Mail: TPT@GNN.COM

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: June 30, 2002

NVLAP LAB CODE 102086-0

DH Analytical Services
4111 Greenbriar, Suite D
Stafford, TX 77477
Contact: Mr. Joseph Bury
Phone: 281-240-8111
Fax: 281-240-8115
E-Mail: dhanalytical@aol.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: June 30, 2002

NVLAP LAB CODE 102087-0

Hygeia Laboratories, Inc.
1300 Williams Drive, Suite A
Marietta, GA 30066-6299
Contact: Mr. Clayton Call
Phone: 770-514-6933
Fax: 770-514-6966
E-Mail: call67@atc-enviro.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: March 31, 2002

NVLAP LAB CODE 102089-0

Alpine Consulting, Inc.
1706 N. Circle Drive
Colorado Springs, CO 80909
Contact: Mr. Kevin R. Weaver
Phone: 719-473-2311
Fax: 719-473-2312

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: June 30, 2002

NVLAP LAB CODE 102090-0

Bay Area Air Quality Management District
939 Ellis Street
San Francisco, CA 94109
Contact: Mr. James Hesson
Phone: 415-749-4625
Fax: 415-749-5101
E-Mail: jhesson@baaqmd.gov

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: March 31, 2002

NVLAP LAB CODE 102091-0

Converse Consultants
4840 Mill Street #5
Reno, NV 89502
Contact: Mr. Dan R. Dolk
Phone: 775-856-3833
Fax: 775-856-3513

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: June 30, 2002

NVLAP LAB CODE 102101-0

Taylor Environmental Group, Inc.
130 Jericho Turnpike
Floral Park, NY 11001
Contact: Mr. George Taylor
Phone: 516-358-2955
Fax: 516-358-1780
E-Mail: georget@taylorenvironmental.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: December 31, 2002

NVLAP LAB CODE 102102-0

American Electric Power (AEP), Dolan Chemical Laboratory
John E. Dolan Engineering Laboratories
4001 Bixby Road
Groveport, OH 43125-9319
Contact: Mr. Geoffrey E. Campbell
Phone: 614-836-4210
Fax: 614-836-4168
E-Mail: Geoffrey_E_Campbell@AEP.COM

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: March 31, 2002

NVLAP LAB CODE 102104-0

EMSL Analytical, Inc.
620-G Guilford College Road
Greensboro, NC 27409
Contact: Mr. Nathan Durham
Phone: 336-297-1487
Fax: 336-297-1676
E-Mail: ndurham@emsl.com
URL: http://www.emsl.com/

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: June 30, 2002

Airborne Asbestos Analysis (TEM)
Accreditation Valid Through: June 30, 2002

NVLAP LAB CODE 102106-0

EMSL Analytical, Inc.
2501 Central Parkway, Suite C-13
Houston, TX 77092
Contact: Mr. Darryl Neldner
Phone: 713-686-3635
Fax: 713-686-3645

URL: http://www/emsl.com/

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: June 30, 2002

Airborne Asbestos Analysis (TEM)
Accreditation Valid Through: June 30, 2002

NVLAP LAB CODE 102108-0

m.a.c. Paran Consulting Services, Inc.
Analytical Laboratory
4005 Bach Buxton Road
Amelia, OH 45102
Contact: Mr. James R. Jones
Phone: 513-752-9111
Fax: 513-752-7973

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: September 30, 2002

NVLAP LAB CODE 102111-0

Cape Environmental Management, Inc.
2302 Parklake Drive, Suite 200
Atlanta, GA 30345-2907
Contact: Mr. Aleksey Reznik
Phone: 770-908-7200
Fax: 770-908-7219

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: June 30, 2002

NVLAP LAB CODE 102114-0

EAI, Inc.
454 Central Avenue
Jersey City, NJ 07307
Contact: Mr. Robert Carvalho
Phone: 201-714-9858
Fax: 201-714-9895
E-Mail: robc@eaienviro.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: June 30, 2002

NVLAP LAB CODE 102115-0

Industrial Laboratory
Norfolk Naval Shipyard
Building 184, 3rd Fl.
Portsmouth, VA 23709-5000
Contact: Mrs. Barbara B. Walker
Phone: 757-396-3207
Fax: 757-396-3972
E-Mail: Walkerbb@nnsy.navy.mil

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: March 31, 2002

NVLAP LAB CODE 102116-0

Hygeia Laboratories Inc.
82 W. Sierra Madre Blvd.
Sierra Madre, CA 91024-2434
Contact: Mr. Gustavo Delgado
Phone: 626-355-4711
Fax: 626-355-4497
E-Mail: gdelgado77@atc-enviro.com
URL: htpp://home.earthlink.net/delgadog

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: June 30, 2002

Airborne Asbestos Analysis (TEM)
Accreditation Valid Through: June 30, 2002

NVLAP LAB CODE 102118-0

Apex Research, Inc.
8739 Main Street, Suite I
Whitmore Lake, MI 48189
Contact: Mr. Robert Letarte
Phone: 734-449-9990
Fax: 734-449-9991

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: June 30, 2002

NVLAP LAB CODE 200002-0

Cygnacom Solutions, Inc. An Entrust Company
7927 Jones Branch Drive, Suite 100 West
McLean, VA 22102-3305
Contact: Dr. Santosh Chokhani
Phone: 703-270-3520
Fax: 703-848-0960
E-Mail: chokhani@cygnacom.com
URL: http://www.cygnacom.com/labs/sel.htm

Common Criteria Testing
Accreditation Valid Through: September 30, 2002

NVLAP Code	*Designation*
26/A01	ISO/IEC 15408: Info. Tech. - Security Techniques - Eval. Criteria for IT Security; Common Eval. Methodology for Info. Tech. Security, Part 1; Common Methodology for Info. Tech. Security Evaluation, Part 2
26/A01a	APE: Protection Profile evaluation
26/A01b	ASE: Security Target evaluation
26/A01c	EAL1: Evaluation assurance level 1
26/A01d	EAL2: Evaluation assurance level 2
26/A01e	EAL3: Evaluation assurance level 3
26/A01f	EAL4: Evaluation assurance level 4

Cryptographic Module Testing
Accreditation Valid Through: September 30, 2002

NVLAP Code	*Designation*
17/C01	NIST-CSTT:140-1; National Institute of Standards and Technology-Cryptographic Support Test Tool (CSTT) for the Federal Information Processing Standard 140-1 (FIPS 140-1) "Security Requirements for Cryptographic Modules."
17/C01a	Test Method Group 1: All test methods derived from FIPS 140-1 and specified in the CSTT, except those listed in Group 2 and Group 3.
17/C01b	Test Method Group 2: Test methods for Physical Security, Level 4 derived from FIPS 140-1 and specified in the CSTT
17/C01c	Test Method Group 3: Test methods for Software Security, Level 4 derived from FIPS 140-1 and specified in the CSTT

17/C02	FIPS-Approved Cryptographic Algorithms (see http://csrc.nist.gov/cryptval) as required in FIPS PUB 140-1.

NVLAP LAB CODE 200005-0

Motorola Test Lab Services

20 Cabot Boulevard, M2-460
Mansfield, MA 02048-1153
Contact: Mr. Randel Weaner
Phone: 508-851-8484
Fax: 508-851-8512
E-Mail: randy.weaner@motorola.com

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: September 30, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/CIS22c	EN 55022
12/EM01	EN 55081-1
12/EM02	EN 61000-3-2
12/EM03	EN 61000-3-3
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548
Immunity Test Methods:	
12/I01	IEC 61000-4-2 (1995) and Amendment 1 (1998): Electrostatic Discharge Immunity Test
12/I02	IEC 61000-4-3 (1995) and Amendment 1 (1998): Radiated, Radio-Frequency Electromagnetic Field Immunity Test
12/I03	IEC 61000-4-4 (1995): Electrical Fast Transient/Burst Immunity Test
12/I04	IEC 61000-4-5 (1995): Surge Immunity Test
12/I05	IEC 61000-4-6 (1996): Immunity to Conducted Disturbances, Induced Radio-Frequency Fields
12/I06	IEC 61000-4-8 (1993): Power Frequency Magnetic Field Immunity Test
12/I07	IEC 61000-4-11 (1994): Voltage Dips, Short Interruptions and Voltage Variations Immunity Tests
12/I08	EN 55024
12/I09	EN 55082-1
12/I10	EN 300386-2
12/I11	EN 50083-2

NVLAP LAB CODE 200007-0

Lithonia Testing Laboratories

1335 Industrial Blvd.
P.O. Box A
Conyers, GA 30012-9001
Contact: Mr. James Hospodarsky
Phone: 770-922-9000 x2424
Fax: 770-929-8789
E-Mail: jhospodarsky@lithonia.com

Energy Efficient Lighting Products

Accreditation Valid Through: September 30, 2002

NVLAP Code	*Designation*
Luminaires (Lighting Fixtures)	
22/F02	IES LM-31
22/F03	IES LM-35
22/F04	IES LM-41
22/F05	IES LM-46

NVLAP LAB CODE 200010-0

Tri-State Materials Testing Lab, Inc.

121 P North Plains Industrial Road
Wallingford, CT 06492
Contact: Mr. William Antonetti
Phone: 203-949-7733
Fax: 203-949-7735
E-Mail: billA@materials-testing.com
URL: http://www.materials-testing.com

Construction Materials Testing

Accreditation Valid Through: September 30, 2002

NVLAP Code	*Designation*
Aggregates	
02/A03	ASTM C29
02/A04	ASTM C40
02/A07	ASTM C117
02/A09	ASTM C127
02/A10	ASTM C128
02/A12	ASTM C136
02/A15	ASTM D75
Concrete	
02/A43	ASTM C1064
02/G01	ASTM C31/C172/C143/C138/C231
02/G02	ASTM C173
Road and Paving Materials	
02/M08	ASTM D979
02/M24	ASTM D2041
02/M25	ASTM D2726
Soil and Rock	
02/L02	ASTM D422
02/L04	ASTM D698
02/L06	ASTM D1140
02/L08	ASTM D1557
02/L13	ASTM D2216

02/L20	ASTM D4318
Standard Practices	
02/A38	ASTM E329
02/A39	ASTM C1077
02/M26	ASTM D3666

NVLAP LAB CODE 200012-0

IPS Corporation

1878-1, Harumiya Ono, Tatsuno-machi,
Kamiina-gun, Nagano-ken, PO Box 399-0601
Nagano 399-0601
JAPAN
Contact: Mr. Osamu Kubota
Phone: +81-266-44-5200
Fax: +81-266-44-5300
E-Mail: kubota@ips-emc.co.jp
URL: http://www.ips-emc.co.jp

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: December 31, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS14	CISPR 14-1 (March 30, 2000): Limits and methods of measurement of radio interference characteristics of household electrical appliances, portable tools and similar electrical apparatus - Part 1: Emissions
12/CIS14a	EN 55014-1 (1993) with Amendments A1 (1997) & A2 (1999)
12/CIS14b	AS/NZS 1044 (1995)
12/CIS14c	CNS 13783-1
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

NVLAP LAB CODE 200013-0

ENCORP

615 North Nash Street, Suite 203
El Segundo, CA 90245
Contact: Mr. Roger Casillas
Phone: 310-640-9811
Fax: 310-640-9804
E-Mail: fmateo@encorp.net
URL: http://www.encorp.net

Bulk Asbestos Analysis (PLM)

Accreditation Valid Through: December 31, 2002

NVLAP LAB CODE 200016-0

Daybrite Lighting (Genlyte Thomas Group) Photometric Laboratory

776 S. Green Street
P.O. Box 1687
Tupelo, MS 38802-1687
Contact: Dr. David W. Knoble, P.E.
Phone: 662-842-7212
Fax: 662-841-5596
E-Mail: dknoble@genlytethomas.com

Energy Efficient Lighting Products

Accreditation Valid Through: December 31, 2002

NVLAP Code	*Designation*
Luminaires (Lighting Fixtures)	
22/F01	IES LM-10
22/F03	IES LM-35
22/F04	IES LM-41
22/F05	IES LM-46

NVLAP LAB CODE 200017-0

DOMUS Information Technology Security Laboratory

2220 Walkley Road
Ottawa Ontario K1G 5L2
CANADA
Contact: Ms. Laurie L. Mack
Phone: 613-247-5505
Fax: 613-739-4936
E-Mail: lauriem@ca.ibm.com
URL: http://www.domusitsl.com

Cryptographic Module Testing

Accreditation Valid Through: December 31, 2002

NVLAP Code	*Designation*
17/C01	NIST-CSTT:140-1; National Institute of Standards and Technology-Cryptographic Support Test Tool (CSTT) for the Federal Information Processing Standard 140-1 (FIPS 140-1) "Security Requirements for Cryptographic Modules."
17/C01a	Test Method Group 1: All test methods derived from FIPS 140-1 and specified in the CSTT, except those listed in Group 2 and Group 3.

17/C01b	Test Method Group 2: Test methods for Physical Security, Level 4 derived from FIPS 140-1 and specified in the CSTT
17/C01c	Test Method Group 3: Test methods for Software Security, Level 4 derived from FIPS 140-1 and specified in the CSTT
17/C02	FIPS-Approved Cryptographic Algorithms (see http://csrc.nist.gov/cryptval) as required in FIPS PUB 140-1.

NVLAP LAB CODE 200018-0

Test-Con Incorporated

16 East Franlin Street
P.O. Box 3116
Danbury, CT 06813-3116
Contact: Mr. Chin Okwuka
Phone: 203-748-3012
Fax: 203-778-0633
E-Mail: chin@test-con.com
URL: http://www.test-con.com

Construction Materials Testing

Accreditation Valid Through: September 30, 2002

NVLAP Code	*Designation*
Admixtures	
02/A35	ASTM C233
Aggregates	
02/A03	ASTM C29
02/A04	ASTM C40
02/A05	ASTM C87
02/A06	ASTM C88
02/A07	ASTM C117
02/A09	ASTM C127
02/A10	ASTM C128
02/A12	ASTM C136
02/A15	ASTM D75
02/A44	ASTM C566
Cement	
02/A17	ASTM C109
02/A51	ASTM C780 (Annex A7)
02/A52	ASTM C1019
Concrete	
02/A01	ASTM C39
02/A02	ASTM C617
02/A41	ASTM C192
02/A43	ASTM C1064
02/A45	ASTM C42
02/G01	ASTM C31/C172/C143/C138/C231
02/G02	ASTM C173
Road and Paving Materials	
02/M03	ASTM D140
02/M11	ASTM D1188
02/M25	ASTM D2726
Soil and Rock	
02/L02	ASTM D422
02/L04	ASTM D698
02/L05	ASTM D854
02/L06	ASTM D1140
02/L07	ASTM D1556
02/L08	ASTM D1557
02/L09	ASTM D1558
02/L13	ASTM D2216
02/L14	ASTM D2217
02/L16	ASTM D2487
02/L17	ASTM D2488
02/L20	ASTM D4318
02/L21	ASTM D2434
02/L22	ASTM D2850
02/L23	ASTM D2922
02/L24	ASTM D2974
02/L25	ASTM D3017
02/L31	ASTM D2167
Standard Practices	
02/A38	ASTM E329
02/A39	ASTM C1077

NVLAP LAB CODE 200019-0

EMSL Analytical, Inc.

14375 23rd Avenue North
Minneapolis, MN 55447
Contact: Ms. Rachel Travis
Phone: 763-449-4922
Fax: 763-449-4924
E-Mail: minneapolislab@emsl.com
URL: http://www.emsl.com

Bulk Asbestos Analysis (PLM)

Accreditation Valid Through: March 31, 2002

Airborne Asbestos Analysis (TEM)

Accreditation Valid Through: March 31, 2002

NVLAP LAB CODE 200020-0

Hubbell Lighting Photometric Laboratory

2000 Electric Way
Christiansburg, VA 24073-2502
Contact: Mr. Steven Regnaud
Phone: 540-382-6111 x267
Fax: 540-382-1544
E-Mail: slregnau@hubbell-ltg.com
URL: www.hubbell-ltg.com/default.htm/photlab.html

Energy Efficient Lighting Products

Accreditation Valid Through: December 31, 2002

NVLAP Code	*Designation*
Luminaires (Lighting Fixtures)	
22/F01	IES LM-10
22/F02	IES LM-31
22/F03	IES LM-35
22/F04	IES LM-41
22/F05	IES LM-46

NVLAP LAB CODE 200021-0

Wayne Langston, Inc.

P.O. Box 1377
League City, TX 77574-1377
Contact: Mr. Wayne Langston
Phone: 281-337-6785
Fax: 281-337-7217
E-Mail: langstoninc@msn.com
URL: http://www.Waynelangstoninc.com

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: September 30, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

NVLAP LAB CODE 200030-0

Dodge-Regupol, Inc. Laboratory

715 Fountain Avenue
P.O. Box 989
Lancaster, PA 17608-0989
Contact: Mr. Clyde T. Diffendall
Phone: 717-295-3400 x262
Fax: 717-295-3414
E-Mail: ctd@regupol.com

Commercial Products Testing

Accreditation Valid Through: March 31, 2002

NVLAP Code	*Designation*
Plastics	
15/A23a	ASTM D412 (Test Method A - Dumbell Specimens)
15/A24	ASTM D573
15/A25a	ASTM D624
15/A26	ASTM D2240 (Type A Durometer)
15/A30	ASTM D297 (Sec. 16; Para. 16.3)

NVLAP LAB CODE 200033-0

3M Product Safety EMC Laboratory

410 E. Fillmore Avenue
Bldg 76-1-01
St. Paul, MN 55144-1000
Contact: Mr. Greg Demaray
Phone: 612-736-4427
Fax: 612-737-1035
E-Mail: gedemaray@mmm.com

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: June 30, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS14	CISPR 14-1 (March 30, 2000): Limits and methods of measurement of radio interference characteristics of household electrical appliances, portable tools and similar electrical apparatus - Part 1: Emissions
12/CIS14a	EN 55014-1 (1993) with Ammendments A1 (1997) & A2 (1999)
12/CIS14b	AS/NZS 1044 (1995)
12/CIS14c	CNS 13783-1
12/CIS22	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548
Immunity Test Methods:	
12/I01	IEC 61000-4-2 (1995) and Amendment 1 (1998): Electrostatic Discharge Immunity Test
12/I02	IEC 61000-4-3 (1995) and Amendment 1 (1998): Radiated, Radio-Frequency Electromagnetic Field Immunity Test
12/I03	IEC 61000-4-4 (1995): Electrical Fast Transient/Burst Immunity Test
12/I04	IEC 61000-4-5 (1995): Surge Immunity Test
12/I05	IEC 61000-4-6 (1996): Immunity to Conducted Disturbances, Induced Radio-Frequency Fields
12/I06	IEC 61000-4-8 (1993): Power Frequency Magnetic Field Immunity Test
12/I07	IEC 61000-4-11 (1994): Voltage Dips, Short Interruptions and Voltage Variations Immunity Tests

NVLAP LAB CODE 200034-0

EMSL Analytical, Inc.

Westwood Business Park 1801 Royal Lane
Suite 908
Dallas, TX 75229
Contact: Mr. Darryl Neldner
Phone: 972-831-9725
Fax: 972-444-0884
E-Mail: DallasLab@EMSL.com

Bulk Asbestos Analysis (PLM)

Accreditation Valid Through: March 31, 2002

Airborne Asbestos Analysis (TEM)

Accreditation Valid Through: March 31, 2002

NVLAP LAB CODE 200036-0

Quest Engineering Solutions, Inc.

7 Sterling Road
P.O. Box 125
N. Billerica, MA 01862
Contact: Mr. Richard Ferris
Phone: 978-667-7000 x204
Fax: 978-667-3388
E-Mail: r.ferris@QES.com
URL: http://www.QES.com

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: March 31, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS14	CISPR 14-1 (March 30, 2000): Limits and methods of measurement of radio interference characteristics of household electrical appliances, portable tools and similar electrical apparatus - Part 1: Emissions
12/CIS14a	EN 55014-1 (1993) with Ammendments A1 (1997) & A2 (1999)
12/CIS14b	AS/NZS 1044 (1995)
12/CIS14c	CNS 13783-1
12/CIS22	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

NVLAP LAB CODE 200037-0

Western Analytical Laboratory, Inc.

12734 Branford Street, Unit #19
Arleta, CA 91331
Contact: Mr. Mike Maladzhikyan
Phone: 818-899-0949
Fax: 818-899-0399
E-Mail: mail@asbestostesting.com
URL: http://www.asbestostesting.com

Bulk Asbestos Analysis (PLM)

Accreditation Valid Through: March 31, 2002

NVLAP LAB CODE 200039-0

TUV Telecom Services, Inc.

1775 Old Highway 8, Suite 107/108
St. Paul, MN 55112-1891
Contact: Mr. David A. Freemore
Phone: 651-639-0775
Fax: 651-639-0873
E-Mail: dfreemore@us.tuv.com
URL: http://www.tuv.com

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: March 31, 2002

NVLAP Code	*Designation*
Telecommunications Test Methods:	
12/CS03	CS-03
12/T01	Terminal Equipment Network Protection Standards, FCC Method - 47 CFR Part 68 - Analog and Digital
12/T01a	68.302 (Par. c,d,e,f) Environmental simulation; 68.304 Leakage current limit.; 68.306 Hazardous voltage limit.; 68.308 Signal power limit.; 68.310 Longitudinal balance limit.; 68.312 On-hook impedance limit.; 68.314 Billing protection
12/T01b	68.316 Hearing Aid Compatibility: technical standards
12/T01c	68.302 Environmental simulation (Par. a,b)
12/T45	ACA TS-006
12/T49	ACA TS-016

NVLAP LAB CODE 200040-0

LG Electronics, Inc., Quality and Reliability Center

36, Munlae-dong, 6-ga Youngdungpo-gu
Seoul 150-096
KOREA
Contact: Mr. Tae-Yeong Oh
Phone: 82 2 2630 3008
Fax: 82 2 2630 3050
E-Mail: tyojlight@lge.co.kr

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: June 30, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS22	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548
Immunity Test Methods:	
12/I01	IEC 61000-4-2 (1995) and Amendment 1 (1998): Electrostatic Discharge Immunity Test
12/I02	IEC 61000-4-3 (1995) and Amendment 1 (1998): Radiated, Radio-Frequency Electromagnetic Field Immunity Test
12/I03	IEC 61000-4-4 (1995): Electrical Fast Transient/Burst Immunity Test
12/I04	IEC 61000-4-5 (1995): Surge Immunity Test
12/I05	IEC 61000-4-6 (1996): Immunity to Conducted Disturbances, Induced Radio-Frequency Fields
12/I07	IEC 61000-4-11 (1994): Voltage Dips, Short Interruptions and Voltage Variations Immunity Tests

NVLAP LAB CODE 200041-0

Kingston Environmental Laboratory

1600 S.W. Market
Lee's Summit, MO 64081-3109
Contact: Ms. Melissa McKee
Phone: 816-246-8746
Fax: 816-525-5027
E-Mail: biobugs@aol.com

Bulk Asbestos Analysis (PLM)

Accreditation Valid Through: September 30, 2002

NVLAP LAB CODE 200044-0

U.S. Army Center for Health Promotion and Preventive Medicine

Attn: MCHB-TS-L, Bldg. E-2100
5158 Blackhawk Road
Aberdeen Proving Ground, MD 21010-5403
Contact: Ms. Rosemary Gaffney
Phone: 410-436-2208
Fax: 410-436-8315

Bulk Asbestos Analysis (PLM)

Accreditation Valid Through: September 30, 2002

NVLAP LAB CODE 200045-0

Willamette Industries, Inc. West Coast Development Lab

9130 SW Pioneer Court, Suite D
Wilsonville, OR 97070
Contact: Mr. Gary Vosler
Phone: 503-682-4995
Fax: 503-682-4545
E-Mail: gvosler@wii.com

Commercial Products Testing

Accreditation Valid Through: September 30, 2002

NVLAP Code	*Designation*
Paper and Related Products	
09/E02	TAPPI T402-OM; ASTM D685
09/E03	TAPPI T403-OM; ASTM D774
09/E05	TAPPI T410-OM
09/E06	TAPPI T411-OM
09/E08	TAPPI T414-OM
09/E17	TAPPI T494-OM
09/E20	TAPPI T809-OM
09/E21	TAPPI T818-OM
09/E22	TAPPI T807-OM
09/E25	TAPPI T826-PM
09/E27	TAPPI TM 833-PM
09/E29	TAPPI T476-OM
09/E31	TAPPI T838-PM
09/H01	ASTM D642; TAPPI T804-OM
09/H24	TAPPI T802-OM
09/H28	TAPPI T810-OM
09/H30	TAPPI T821-OM

09/H31	TAPPI T825-PM

NVLAP LAB CODE 200046-0

Stork-Twin City Testing Corporation

662 Cromwell Avenue
St. Paul, MN 55114-1776
Contact: Mr. Matthew Horton
Phone: 651-659-7402
Fax: 651-659-7348
E-Mail: mhorton@tct.storkgroup.com
URL: http:/www.twincitytesting.com

Acoustical Testing Services

Accreditation Valid Through: March 31, 2002

NVLAP Code	*Designation*
08/P03	ASTM C423
08/P06	ASTM E90
08/P10	ANSI S12.31
08/P24	ANSI S12.10
08/P31	ASTM E336
08/P32	ASTM E1007
08/P37	ASTM E966
08/P52	ISO 3822
08/P54	SAE J1400

NVLAP LAB CODE 200047-0

National Econ Corporation

4515 Poplar Avenue, Suite 410
Memphis, TN 38117
Contact: Mr. Chester V. Ervin
Phone: 901-761-5431
Fax: 901-767-2466

Bulk Asbestos Analysis (PLM)

Accreditation Valid Through: September 30, 2002

NVLAP LAB CODE 200049-0

Intertek Testing Services NA, Inc.

7250 Hudson Blvd. Suite 100
Oakdale, MN 55128
Contact: Mr. Albert Garlatti
Phone: 651-730-1188
Fax: 651-730-1282
E-Mail: agarlatti@itsqs.com
URL: http://www.worldlab.com

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: June 30, 2002

Emissions Test Methods:

NVLAP Code	*Designation*
12/CIS14	CISPR 14-1 (March 30, 2000): Limits and methods of measurement of radio interference characteristics of household electrical appliances, portable tools and similar electrical apparatus - Part 1: Emissions
12/CIS14a	EN 55014-1 (1993) with Ammendments A1 (1997) & A2 (1999)
12/CIS14b	AS/NZS 1044 (1995)
12/CIS14c	CNS 13783-1
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

Immunity Test Methods:

12/I01	IEC 61000-4-2 (1995) and Amendment 1 (1998): Electrostatic Discharge Immunity Test
12/I02	IEC 61000-4-3 (1995) and Amendment 1 (1998): Radiated, Radio-Frequency Electromagnetic Field Immunity Test
12/I03	IEC 61000-4-4 (1995): Electrical Fast Transient/Burst Immunity Test
12/I04	IEC 61000-4-5 (1995): Surge Immunity Test
12/I05	IEC 61000-4-6 (1996): Immunity to Conducted Disturbances, Induced Radio-Frequency Fields
12/I06	IEC 61000-4-8 (1993): Power Frequency Magnetic Field Immunity Test
12/I07	IEC 61000-4-11 (1994): Voltage Dips, Short Interruptions and Voltage Variations Immunity Tests

NVLAP LAB CODE 200050-0

Cooper Lighting - Metalux Research Laboratories

1101 Southerfield Road
P.O. Box 1207
Americus, GA 31709-1207
Contact: Mr. Gregory B. Bacon
Phone: 912-924-8000
Fax: 912-924-5507
E-Mail: gbacon@cooperlighting.com
URL: http://www.cooperlighting.com/metalux/

Energy Efficient Lighting Products

Accreditation Valid Through: June 30, 2002

Luminaires (Lighting Fixtures)

NVLAP Code	*Designation*
22/F04	IES LM-41

NVLAP LAB CODE 200051-0

AES International

1004 Calle Labra, 2nd Floor
R.H. Todd Avenue
Santurce, PR 00907
Contact: Mr. Ady Padan
Phone: 787-722-0220
Fax: 787-724-5788
E-Mail: YOTA1@bellsouth.net

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: December 31, 2002

NVLAP LAB CODE 200052-0

Dell Regulatory Test Laboratories

One Dell Way
Round Rock, TX 78682
Contact: Mr. David Staggs
Phone: 512-728-3751
Fax: 512-728-3653
E-Mail: David_Staggs@us.dell.com

Electromagnetic Compatibility & Telecommunications
Accreditation Valid Through: September 30, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS14	CISPR 14-1 (March 30, 2000): Limits and methods of measurement of radio interference characteristics of household electrical appliances, portable tools and similar electrical apparatus - Part 1: Emissions
12/CIS14a	EN 55014-1 (1993) with Ammendments A1 (1997) & A2 (1999)
12/CIS14b	AS/NZS 1044 (1995)
12/CIS14c	CNS 13783-1
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548
Immunity Test Methods:	
12/I01	IEC 61000-4-2 (1995) and Amendment 1 (1998): Electrostatic Discharge Immunity Test
12/I02	IEC 61000-4-3 (1995) and Amendment 1 (1998): Radiated, Radio-Frequency Electromagnetic Field Immunity Test
12/I03	IEC 61000-4-4 (1995): Electrical Fast Transient/Burst Immunity Test
12/I04	IEC 61000-4-5 (1995): Surge Immunity Test
12/I05	IEC 61000-4-6 (1996): Immunity to Conducted Disturbances, Induced Radio-Frequency Fields
12/I06	IEC 61000-4-8 (1993): Power Frequency Magnetic Field Immunity Test
12/I07	IEC 61000-4-11 (1994): Voltage Dips, Short Interruptions and Voltage Variations Immunity Tests

Acoustical Testing Services
Accreditation Valid Through: September 30, 2002

NVLAP Code	*Designation*
08/P40	ISO 9296
08/P41	ECMA 74
08/P42	ECMA 109
08/P48	ISO 7779

NVLAP LAB CODE 200053-0

A.O. Smith (Lexington) Engineering Laboratory

669 Natchez Trace Drive
Lexington, TN 38351-4198
Contact: Mr. Hugh Fesmire
Phone: 901-967-4713
Fax: 901-968-4164
E-Mail: HFesmire@aosmith.com

Efficiency of Electric Motors
Accreditation Valid Through: June 30, 2002

NVLAP Code	*Designation*
24/M01	IEEE 112, Method B

NVLAP LAB CODE 200056-0

EMSL Analytical, Inc.

490 Rowley Road
Depew, NY 14043
Contact: Mr. Kenneth J. Najuch
Phone: 716-651-0030
Fax: 716-651-0394
E-Mail: knajuch@emsl.com
URL: http://www.emsl.com/

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: June 30, 2002

Airborne Asbestos Analysis (TEM)
Accreditation Valid Through: June 30, 2002

NVLAP LAB CODE 200058-0

Compaq Computer Corp. Emissions Control Lab

M/C 060607
P.O. Box 692000
Houston, TX 77070-2000
Contact: Mr. Steve Ortmann
Phone: 281-514-4897
Fax: 281-514-8029
E-Mail: Steve.Ortmann@Compaq.Com

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: September 30, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548
Immunity Test Methods:	
12/I01	IEC 61000-4-2 (1995) and Amendment 1 (1998): Electrostatic Discharge Immunity Test
12/I02	IEC 61000-4-3 (1995) and Amendment 1 (1998): Radiated, Radio-Frequency Electromagnetic Field Immunity Test
12/I03	IEC 61000-4-4 (1995): Electrical Fast Transient/Burst Immunity Test
12/I04	IEC 61000-4-5 (1995): Surge Immunity Test
12/I05	IEC 61000-4-6 (1996): Immunity to Conducted Disturbances, Induced Radio-Frequency Fields
12/I06	IEC 61000-4-8 (1993): Power Frequency Magnetic Field Immunity Test
12/I07	IEC 61000-4-11 (1994): Voltage Dips, Short Interruptions and Voltage Variations Immunity Tests
Safety Test Methods:	
12/T41	ACA TS-001
12/T50	AS/NZS 3260

NVLAP LAB CODE 200059-0

Northwest EMC, Inc.

22975 NW Evergreen Parkway, Suite 400
Hillsboro, OR 97124
Contact: Mr. David Tolman
Phone: 503-844-4066
Fax: 503-844-3826
E-Mail: dtolman@nwemc.com
URL: http://www.nwemc.com

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: June 30, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS22	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548
Immunity Test Methods:	
12/I01	IEC 61000-4-2 (1995) and Amendment 1 (1998): Electrostatic Discharge Immunity Test
12/I02	IEC 61000-4-3 (1995) and Amendment 1 (1998): Radiated, Radio-Frequency Electromagnetic Field Immunity Test
12/I03	IEC 61000-4-4 (1995): Electrical Fast Transient/Burst Immunity Test
12/I04	IEC 61000-4-5 (1995): Surge Immunity Test
12/I05	IEC 61000-4-6 (1996): Immunity to Conducted Disturbances, Induced Radio-Frequency Fields
12/I06	IEC 61000-4-8 (1993): Power Frequency Magnetic Field Immunity Test
12/I07	IEC 61000-4-11 (1994): Voltage Dips, Short Interruptions and Voltage Variations Immunity Tests

NVLAP LAB CODE 200061-0

Rhein Tech Laboratories, Inc.

360 Herndon Parkway, Suite #1400
Herndon, VA 20170-4824
Contact: Mr. Bruno Clavier
Phone: 703-689-0368
Fax: 703-689-2056
E-Mail: bclavier@rheintech.com
URL: http://www.rheintech.com

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: September 30, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

NVLAP LAB CODE 200062-0

Professional Testing (EMI), Inc.

1601 FM 1460, Suite B
Round Rock, TX 78664
Contact: Mr. Jeffrey A. Lenk
Phone: 512-244-3371
Fax: 512-244-1846
E-Mail: jlenk@ptitest.com
URL: http://www.ptitest.com

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: December 31, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548
Immunity Test Methods:	
12/I01	IEC 61000-4-2 (1995) and Amendment 1 (1998): Electrostatic Discharge Immunity Test
12/I02	IEC 61000-4-3 (1995) and Amendment 1 (1998): Radiated, Radio-Frequency Electromagnetic Field Immunity Test
12/I03	IEC 61000-4-4 (1995): Electrical Fast Transient/Burst Immunity Test
12/I04	IEC 61000-4-5 (1995): Surge Immunity Test
12/I05	IEC 61000-4-6 (1996): Immunity to Conducted Disturbances, Induced Radio-Frequency Fields
12/I06	IEC 61000-4-8 (1993): Power Frequency Magnetic Field Immunity Test
12/I07	IEC 61000-4-11 (1994): Voltage Dips, Short Interruptions and Voltage Variations Immunity Tests

NVLAP LAB CODE 200063-0

Compatible Electronics, Inc.

2337 Troutdale Drive
Agoura, CA 91301
Contact: Mr. Jeff Klinger
Phone: 714-579-0500
Fax: 714-579-1850
E-Mail: jklinger@celectronics.com
URL: http://celectronics.com

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: June 30, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices

12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

Immunity Test Methods:

12/I01	IEC 61000-4-2 (1995) and Amendment 1 (1998): Electrostatic Discharge Immunity Test
12/I02	IEC 61000-4-3 (1995) and Amendment 1 (1998): Radiated, Radio-Frequency Electromagnetic Field Immunity Test
12/I03	IEC 61000-4-4 (1995): Electrical Fast Transient/Burst Immunity Test
12/I04	IEC 61000-4-5 (1995): Surge Immunity Test
12/I05	IEC 61000-4-6 (1996): Immunity to Conducted Disturbances, Induced Radio-Frequency Fields
12/I06	IEC 61000-4-8 (1993): Power Frequency Magnetic Field Immunity Test
12/I07	IEC 61000-4-11 (1994): Voltage Dips, Short Interruptions and Voltage Variations Immunity Tests

Safety Test Methods:

12/T41	ACA TS-001
12/T50	AS/NZS 3260

Telecommunications Test Methods:

12/CS03	CS-03
12/T01	Terminal Equipment Network Protection Standards, FCC Method - 47 CFR Part 68 - Analog and Digital
12/T01a	68.302 (Par. c,d,e,f) Environmental simulation; 68.304 Leakage current limit.; 68.306 Hazardous voltage limit.; 68.308 Signal power limit.; 68.310 Longitudinal balance limit.; 68.312 On-hook impedance limit.; 68.314 Billing protection
12/T01b	68.316 Hearing Aid Compatibility: technical standards

NVLAP LAB CODE 200065-0

Compliance Eng. Svces, Inc., Compliance Certification Services

561F Monterey Road
Morgan Hill, CA 95037
Contact: Mr. Scott Wang
Phone: 408-463-0885
Fax: 408-463-0888
E-Mail: swang@ccsemc.com
URL: http://www.ccsemc.com

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: June 30, 2002

NVLAP
Code *Designation*

Emissions Test Methods:

12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

Immunity Test Methods:

12/I01	IEC 61000-4-2 (1995) and Amendment 1 (1998): Electrostatic Discharge Immunity Test
12/I02	IEC 61000-4-3 (1995) and Amendment 1 (1998): Radiated, Radio-Frequency Electromagnetic Field Immunity Test
12/I03	IEC 61000-4-4 (1995): Electrical Fast Transient/Burst Immunity Test
12/I04	IEC 61000-4-5 (1995): Surge Immunity Test
12/I05	IEC 61000-4-6 (1996): Immunity to Conducted Disturbances, Induced Radio-Frequency Fields
12/I06	IEC 61000-4-8 (1993): Power Frequency Magnetic Field Immunity Test
12/I07	IEC 61000-4-11 (1994): Voltage Dips, Short Interruptions and Voltage Variations Immunity Tests

NVLAP LAB CODE 200066-0

Washington Laboratories, Ltd.

7560 Lindbergh Drive
Gaithersburg, MD 20879
Contact: Mr. Michael F. Violette
Phone: 301-417-0220
Fax: 301-417-9069
E-Mail: mikev@wll.com
URL: http://www.wll.com

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: September 30, 2002

NVLAP
Code *Designation*

Emissions Test Methods:

12/CIS14	CISPR 14-1 (March 30, 2000): Limits and methods of measurement of radio interference characteristics of household electrical appliances, portable tools and similar electrical apparatus - Part 1: Emissions
12/CIS14a	EN 55014-1 (1993) with Amendments A1 (1997) & A2 (1999)
12/CIS14b	AS/NZS 1044 (1995)
12/CIS14c	CNS 13783-1
12/CIS22	IEC/CISPR 22:1997: Limits and methods of

	measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions

Immunity Test Methods:

12/I01	IEC 61000-4-2 (1995) and Amendment 1 (1998): Electrostatic Discharge Immunity Test
12/I02	IEC 61000-4-3 (1995) and Amendment 1 (1998): Radiated, Radio-Frequency Electromagnetic Field Immunity Test
12/I03	IEC 61000-4-4 (1995): Electrical Fast Transient/Burst Immunity Test
12/I04	IEC 61000-4-5 (1995): Surge Immunity Test
12/I05	IEC 61000-4-6 (1996): Immunity to Conducted Disturbances, Induced Radio-Frequency Fields
12/I06	IEC 61000-4-8 (1993): Power Frequency Magnetic Field Immunity Test
12/I07	IEC 61000-4-11 (1994): Voltage Dips, Short Interruptions and Voltage Variations Immunity Tests

Safety Test Methods:

12/T41	ACA TS-001
12/T50	AS/NZS 3260

NVLAP LAB CODE 200067-0

JMR Environmental Services Inc.

4560 Alvarado Canyon Rd., Suite 2-D
San Diego, CA 92120
Contact: Mr. Rick De Nisco
Phone: 619-858-7260
Fax: 619-858-7264

Bulk Asbestos Analysis (PLM)

Accreditation Valid Through: September 30, 2002

NVLAP LAB CODE 200068-0

EMC Compliance Mgmt Group, dba Turntech Scientific & Instr., Inc.

670 National Avenue
Mountain View, CA 94043-2244
Contact: Mr. Paul F. Chen
Phone: 650-988-0900
Fax: 650-988-6647
E-Mail: pfchen@emclab2000.com
URL: http://www.emclab2000.com

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: December 31, 2002

Emissions Test Methods:

NVLAP Code	*Designation*
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

Immunity Test Methods:

12/I01	IEC 61000-4-2 (1995) and Amendment 1 (1998): Electrostatic Discharge Immunity Test
12/I02	IEC 61000-4-3 (1995) and Amendment 1 (1998): Radiated, Radio-Frequency Electromagnetic Field Immunity Test
12/I03	IEC 61000-4-4 (1995): Electrical Fast Transient/Burst Immunity Test
12/I04	IEC 61000-4-5 (1995): Surge Immunity Test
12/I05	IEC 61000-4-6 (1996): Immunity to Conducted Disturbances, Induced Radio-Frequency Fields
12/I06	IEC 61000-4-8 (1993): Power Frequency Magnetic Field Immunity Test
12/I07	IEC 61000-4-11 (1994): Voltage Dips, Short Interruptions and Voltage Variations Immunity Tests

(See 'How To Use This Directory' on page 7.)

NVLAP LAB CODE 200069-0

Elliott Laboratories, Inc.

684 West Maude Avenue
Sunnyvale, CA 94085-3518
Contact: Mr. Thomas H. Parker
Phone: 408-245-7800 x236
Fax: 408-245-3499
E-Mail: tparker@elliottlabs.com
URL: http://www.elliottlabs.com

Electromagnetic Compatibility & Telecommunications
Accreditation Valid Through: September 30, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548
Immunity Test Methods:	
12/I01	IEC 61000-4-2 (1995) and Amendment 1 (1998): Electrostatic Discharge Immunity Test
12/I02	IEC 61000-4-3 (1995) and Amendment 1 (1998): Radiated, Radio-Frequency Electromagnetic Field Immunity Test
12/I03	IEC 61000-4-4 (1995): Electrical Fast Transient/Burst Immunity Test
12/I04	IEC 61000-4-5 (1995): Surge Immunity Test
12/I05	IEC 61000-4-6 (1996): Immunity to Conducted Disturbances, Induced Radio-Frequency Fields
12/I06	IEC 61000-4-8 (1993): Power Frequency Magnetic Field Immunity Test
12/I07	IEC 61000-4-11 (1994): Voltage Dips, Short Interruptions and Voltage Variations Immunity Tests
Safety Test Methods:	
12/T41	ACA TS-001
12/T50	AS/NZS 3260

NVLAP LAB CODE 200071-0

Apple Computer, Inc., EMC Compliance Laboratory

1 Infinite Loop, Mailstop 26-A
Cupertino, CA 95014-2084
Contact: Mr. Robert Steinfeld
Phone: 408-974-2618
Fax: 408-862-5061
E-Mail: steinfeld@apple.com

Electromagnetic Compatibility & Telecommunications
Accreditation Valid Through: September 30, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

NVLAP LAB CODE 200076-0

Laird Group PLC

P.O. Box 650, Shielding Way
Delaware Water Gap, PA 18327-0650
Contact: Mr. Michael Lambert
Phone: 570-424-8510
Fax: 570-421-4227
E-Mail: mlambert@lairdtech.com
URL: http://www.lairdtech.com

Electromagnetic Compatibility & Telecommunications
Accreditation Valid Through: September 30, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology

	equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548
Immunity Test Methods:	
12/I01	IEC 61000-4-2 (1995) and Amendment 1 (1998): Electrostatic Discharge Immunity Test
12/I02	IEC 61000-4-3 (1995) and Amendment 1 (1998): Radiated, Radio-Frequency Electromagnetic Field Immunity Test
12/I03	IEC 61000-4-4 (1995): Electrical Fast Transient/Burst Immunity Test
12/I04	IEC 61000-4-5 (1995): Surge Immunity Test
12/I05	IEC 61000-4-6 (1996): Immunity to Conducted Disturbances, Induced Radio-Frequency Fields
12/I06	IEC 61000-4-8 (1993): Power Frequency Magnetic Field Immunity Test
12/I07	IEC 61000-4-11 (1994): Voltage Dips, Short Interruptions and Voltage Variations Immunity Tests

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NVLAP LAB CODE 200077-0

Taiwan Tokin EMC Eng. Corp.

No. 53-11, Tin-Fu, Tsun, Lin-Kou Hsiang
Taipei 24443
TAIWAN
Contact: Mr. Jackie Deng
Phone: 886-2-26092133
Fax: 886-2-26099303
E-Mail: ttemc@tpts1.seed.net.tw
URL: http://www.ttemc.com.tw

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: December 31, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS14	CISPR 14-1 (March 30, 2000): Limits and methods of measurement of radio interference characteristics of household electrical appliances, portable tools and similar electrical apparatus - Part 1: Emissions
12/CIS14a	EN 55014-1 (1993) with Amendments A1 (1997) & A2 (1999)
12/CIS14b	AS/NZS 1044 (1995)
12/CIS14c	CNS 13783-1
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548
Immunity Test Methods:	
12/I01	IEC 61000-4-2 (1995) and Amendment 1 (1998): Electrostatic Discharge Immunity Test
12/I02	IEC 61000-4-3 (1995) and Amendment 1 (1998): Radiated, Radio-Frequency Electromagnetic Field Immunity Test
12/I03	IEC 61000-4-4 (1995): Electrical Fast Transient/Burst Immunity Test
12/I04	IEC 61000-4-5 (1995): Surge Immunity Test
12/I05	IEC 61000-4-6 (1996): Immunity to Conducted Disturbances, Induced Radio-Frequency Fields
12/I06	IEC 61000-4-8 (1993): Power Frequency Magnetic Field Immunity Test
12/I07	IEC 61000-4-11 (1994): Voltage Dips, Short Interruptions and Voltage Variations Immunity Tests

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NVLAP LAB CODE 200078-0

Compaq Computer Corp. EMC Test Facility

301 Rockrimmon Blvd. South
Colorado Springs, CO 80919-2398
Contact: Mr. Dennis Laurence
Phone: 719-548-2080
Fax: 719-548-2070
E-Mail: dennis.laurence@compaq.com

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: September 30, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of

	Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

Immunity Test Methods:

12/I01	IEC 61000-4-2 (1995) and Amendment 1 (1998): Electrostatic Discharge Immunity Test
12/I02	IEC 61000-4-3 (1995) and Amendment 1 (1998): Radiated, Radio-Frequency Electromagnetic Field Immunity Test
12/I03	IEC 61000-4-4 (1995): Electrical Fast Transient/Burst Immunity Test
12/I04	IEC 61000-4-5 (1995): Surge Immunity Test
12/I05	IEC 61000-4-6 (1996): Immunity to Conducted Disturbances, Induced Radio-Frequency Fields
12/I06	IEC 61000-4-8 (1993): Power Frequency Magnetic Field Immunity Test
12/I07	IEC 61000-4-11 (1994): Voltage Dips, Short Interruptions and Voltage Variations Immunity Tests

NVLAP LAB CODE 200079-0

Sporton International, Inc.

6F, No. 106, Sec. 1, Hsin Tai Wu Road
Hsi Chih
Taipei Hsien 221
TAIWAN
Contact: Mr. W. L. Huang
Phone: 886-2-2696-2468
Fax: 886-2-2696-2255
E-Mail: kathylin@sporton.com.tw
URL: http://www.sporton.com.tw

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: December 31, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

NVLAP LAB CODE 200080-0

Continental Envirotech, Inc.

646 West Broadway Road, Suite 401
Mesa, AZ 85210-1212
Contact: Mr. Stephen P. Kovac
Phone: 480-844-1710
Fax: 480-844-1752

Bulk Asbestos Analysis (PLM)

Accreditation Valid Through: September 30, 2002

NVLAP LAB CODE 200081-0

Advanced Energy, Industrial Energy Laboratory

909 Capability Drive, #2100
Raleigh, NC 27606-3870
Contact: Mr. Roy B. Miller, P.E.
Phone: 919-857-9036
Fax: 919-832-2696
E-Mail: rmiller@advancedenergy.org
URL: http://www.advancedenergy.org

Efficiency of Electric Motors

Accreditation Valid Through: September 30, 2002

NVLAP Code	*Designation*
24/M01	IEEE 112, Method B

NVLAP LAB CODE 200082-0

PDE Laboratories

950 Calle Negocio
San Clemente, CA 92673-6201
Contact: Mr. Dave Farrant
Phone: 949-361-9189
Fax: 949-361-9597
E-Mail: testsvcs@pdelabs.com

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: September 30, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS14	CISPR 14-1 (March 30, 2000): Limits and methods of measurement of radio interference characteristics of household electrical appliances, portable tools and similar electrical apparatus - Part 1: Emissions
12/CIS14a	EN 55014-1 (1993) with Ammendments A1 (1997) & A2 (1999)
12/CIS14b	AS/NZS 1044 (1995)
12/CIS14c	CNS 13783-1
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology

	equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

Immunity Test Methods:

12/I01	IEC 61000-4-2 (1995) and Amendment 1 (1998): Electrostatic Discharge Immunity Test
12/I02	IEC 61000-4-3 (1995) and Amendment 1 (1998): Radiated, Radio-Frequency Electromagnetic Field Immunity Test
12/I03	IEC 61000-4-4 (1995): Electrical Fast Transient/Burst Immunity Test
12/I04	IEC 61000-4-5 (1995): Surge Immunity Test
12/I05	IEC 61000-4-6 (1996): Immunity to Conducted Disturbances, Induced Radio-Frequency Fields
12/I06	IEC 61000-4-8 (1993): Power Frequency Magnetic Field Immunity Test
12/I07	IEC 61000-4-11 (1994): Voltage Dips, Short Interruptions and Voltage Variations Immunity Tests

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NVLAP LAB CODE 200083-0

Testwell Laboratories, Inc./Testwell Industries, Inc.

47 Hudson Street
Ossining, NY 10562
Contact: Mr. V. Reddy Kancharla
Phone: 914-762-9000
Fax: 914-762-9638

URL: http://www.testwelllabs.com

Construction Materials Testing

Accreditation Valid Through: June 30, 2002

NVLAP Code	*Designation*
Admixtures	
02/A35	ASTM C233
Aggregates	
02/A03	ASTM C29
02/A04	ASTM C40
02/A06	ASTM C88
02/A07	ASTM C117
02/A08	ASTM C123
02/A09	ASTM C127
02/A10	ASTM C128
02/A11	ASTM C131
02/A12	ASTM C136
02/A13	ASTM C142
02/A15	ASTM D75
02/A44	ASTM C566
02/A46	ASTM C535
Cement	
02/A17	ASTM C109
02/A18	ASTM C114
02/A21	ASTM C157
02/A22	ASTM C183
02/A26	ASTM C191
02/A31	ASTM C305
Concrete	
02/A01	ASTM C39
02/A02	ASTM C617
02/A40	ASTM C78
02/A41	ASTM C192
02/A43	ASTM C1064
02/A45	ASTM C42
02/A47	ASTM C457
02/A48	ASTM C856
02/G01	ASTM C31/C172/C143/C138/C231
Road and Paving Materials	
02/M08	ASTM D979
02/M11	ASTM D1188
02/M12	ASTM D1559
02/M24	ASTM D2041
02/M25	ASTM D2726
Soil and Rock	
02/L02	ASTM D422
02/L04	ASTM D698
02/L05	ASTM D854
02/L06	ASTM D1140
02/L07	ASTM D1556
02/L08	ASTM D1557
02/L13	ASTM D2216
02/L16	ASTM D2487
02/L17	ASTM D2488
02/L20	ASTM D4318
02/L23	ASTM D2922
02/L24	ASTM D2974
02/L25	ASTM D3017
Standard Practices	
02/A38	ASTM E329
02/A39	ASTM C1077
Steel Materials	
02/S01	ASTM A370 (Sec. 5-13)/E8
02/S05	ASTM A370 (Sec. 18)/E18
02/S07	ASTM E709
02/S08	ASTM E165

Bulk Asbestos Analysis (PLM)

Accreditation Valid Through: June 30, 2002

Airborne Asbestos Analysis (TEM)

Accreditation Valid Through: June 30, 2002

NVLAP LAB CODE 200084-0

Windermere Info. Tech. Sys.
Military/Commercial Compliance Lab.
401 Defense Highway
Annapolis, MD 21401
Contact: Mr. William Banchero
Phone: 410-266-1737
Fax: 410-266-1751/1725
E-Mail: bbanchero@witsusa.com
URL: http://www.witsusa.com/services/test/com.html

Electromagnetic Compatibility & Telecommunications
Accreditation Valid Through: September 30, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548
Immunity Test Methods:	
12/I01	IEC 61000-4-2 (1995) and Amendment 1 (1998): Electrostatic Discharge Immunity Test
12/I02	IEC 61000-4-3 (1995) and Amendment 1 (1998): Radiated, Radio-Frequency Electromagnetic Field Immunity Test
12/I03	IEC 61000-4-4 (1995): Electrical Fast Transient/Burst Immunity Test
12/I04	IEC 61000-4-5 (1995): Surge Immunity Test
12/I05	IEC 61000-4-6 (1996): Immunity to Conducted Disturbances, Induced Radio-Frequency Fields
12/I07	IEC 61000-4-11 (1994): Voltage Dips, Short Interruptions and Voltage Variations Immunity Tests
MIL-STD-462 : Conducted Emissions:	
12/A01	MIL-STD-462 Method CE01
12/A04	MIL-STD-462 Method CE02
12/A06	MIL-STD-462 Method CE03
12/A08	MIL-STD-462 Method CE04
12/A10	MIL-STD-462 Method CE06
12/A12	MIL-STD-462 Method CE07
12/A13	MIL-STD-462 Version D Method CE101
12/A14	MIL-STD-462 Version D Method CE102
12/A15	MIL-STD-462 Version D Method CE106
12/A16	MIL-STD-461 Version E Method CE101
12/A17	MIL-STD-461 Version E Method CE102
12/A18	MIL-STD-461 Version E Method CE106
MIL-STD-462 : Conducted Susceptibility:	
12/B01	MIL-STD-462 Method CS01
12/B02	MIL-STD-462 Method CS02
12/B04	
12/B05	MIL-STD-462 Method CS06
12/B06	MIL-STD-462 Method CS07
12/B12	MIL-STD-462 Version D Method CS101
12/B13	MIL-STD-462 Version D Method CS103
12/B14	MIL-STD-462 Version D Method CS104
12/B15	MIL-STD-462 Version D Method CS105
12/B17	MIL-STD-462 Version D Method CS114
12/B18	MIL-STD-462 Version D Method CS115
12/B20	MIL-STD-461 Version E Method CS101
12/B21	MIL-STD-461 Version E Method CS103
12/B22	MIL-STD-461 Version E Method CS104
12/B23	MIL-STD-461 Version E Method CS105
12/B25	MIL-STD-461 Version E Method CS114
12/B26	MIL-STD-461 Version E Method CS115
MIL-STD-462 : Radiated Emissions:	
12/D01	MIL-STD-462 Method RE01
12/D02	MIL-STD-462 Method RE02
12/D03	MIL-STD-462 Method RE03
12/D04	MIL-STD-462 Version D Method RE101
12/D05	MIL-STD-462 Version D Method RE102
12/D06	MIL-STD-462 Version D Method RE103
12/D07	MIL-STD-461 Version E Method RE101
12/D08	MIL-STD-461 Version E Method RE102
12/D09	MIL-STD-461 Version E Method RE103
MIL-STD-462 : Radiated Susceptibility:	
12/E01	MIL-STD-462 Method RS01
12/E02	MIL-STD-462 Method RS02
12/E03	MIL-STD-462 Method RS03 (Consult laboratory for field strengths available)
12/E08	MIL-STD-462 Version D Method RS101
12/E09	MIL-STD-462 Version D Method RS103
12/E11	MIL-STD-461 Version E Method RS101
12/E12	MIL-STD-461 Version E Method RS103

NVLAP LAB CODE 200085-0

Global EMC Standard Tech. Corp.
No. 3, Pau-Tou-Tsuo Valley
Chia-Pau Tsuen, Lin Kou Hsiang
Taipei County
TAIWAN
Contact: Mr. Raymond Chang
Phone: 886-2-26035321
Fax: 886-2-26035325
E-Mail: GESTEK@MS5.HINET.NET

Electromagnetic Compatibility & Telecommunications
Accreditation Valid Through: September 30, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.

	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

NVLAP LAB CODE 200087-0

Rogers Labs, Inc.

4405 W. 259th Terrace
Louisburg, KS 66053
Contact: Mr. Scot D. Rogers
Phone: 913-837-3214
Fax: 913-837-3214
E-Mail: rogers@micoks.net

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: March 31, 2002

Emissions Test Methods:

NVLAP Code	*Designation*
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

NVLAP LAB CODE 200088-0

Toshiba/Houston Test Laboratory

13131 W. Little York Road
Houston, TX 77041-5807
Contact: Mr. Willard Gray
Phone: 713-466-0277
Fax: 713-466-8773

Efficiency of Electric Motors

Accreditation Valid Through: December 31, 2002

NVLAP Code	*Designation*
24/M01	IEEE 112, Method B

NVLAP LAB CODE 200090-0

ProScience Analytical Services, Inc.

22 Cummings Park
Woburn, MA 01801-2122
Contact: Mr. Adrian Stanca
Phone: 781-935-3212
Fax: 781-932-4857
E-Mail: PASI96@aol.com
URL: http://www.proscience.net

Bulk Asbestos Analysis (PLM)

Accreditation Valid Through: December 31, 2002

Airborne Asbestos Analysis (TEM)

Accreditation Valid Through: December 31, 2002

NVLAP LAB CODE 200091-0

IBM Rochester EMC Lab

3605 North Highway 52, Department 515
Rochester, MN 55901-7829
Contact: Mr. John S. Maas
Phone: 507-253-2426
Fax: 507-253-1317
E-Mail: johnmaas@us.ibm.com

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: December 31, 2002

Emissions Test Methods:

NVLAP Code	*Designation*
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment

12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

NVLAP LAB CODE 200092-0

EMCE Engineering, Inc.

44366 South Grimmer Boulevard
Fremont, CA 94538-6385
Contact: Mr. Stephen A. Sawyer
Phone: 510-490-4307
Fax: 510-490-3441
E-Mail: emceengrg@aol.com
URL: http://www.emce1.com

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: December 31, 2002

Emissions Test Methods:

NVLAP Code	*Designation*
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

Immunity Test Methods:

12/I01	IEC 61000-4-2 (1995) and Amendment 1 (1998): Electrostatic Discharge Immunity Test
12/I02	IEC 61000-4-3 (1995) and Amendment 1 (1998): Radiated, Radio-Frequency Electromagnetic Field Immunity Test
12/I03	IEC 61000-4-4 (1995): Electrical Fast Transient/Burst Immunity Test
12/I04	IEC 61000-4-5 (1995): Surge Immunity Test
12/I05	IEC 61000-4-6 (1996): Immunity to Conducted Disturbances, Induced Radio-Frequency Fields
12/I06	IEC 61000-4-8 (1993): Power Frequency Magnetic Field Immunity Test

Telecommunications Test Methods:

12/CS03	CS-03
12/T01	Terminal Equipment Network Protection Standards, FCC Method - 47 CFR Part 68 - Analog and Digital
12/T01a	68.302 (Par. c,d,e,f) Environmental simulation; 68.304 Leakage current limit.; 68.306 Hazardous voltage limit.; 68.308 Signal power limit.; 68.310 Longitudinal balance limit.; 68.312 On-hook impedance limit.; 68.314 Billing protection
12/T01b	68.316 Hearing Aid Compatibility: technical standards
12/T01c	68.302 Environmental simulation (Par. a,b)

NVLAP LAB CODE 200093-0

UltraTech Engineering Labs Inc.

3000 Bristol Circle
Oakville, Ontario L6H 6G4
CANADA
Contact: Mr. Victor Kee
Phone: 905-829-1570
Fax: 905-829-8050
E-Mail: vic@ultratech-labs.com
URL: http://www.ultratech-labs.com

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: September 30, 2002

Emissions Test Methods:

NVLAP Code	*Designation*
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

NVLAP LAB CODE 200094-0

Flextronics Compliance Laboratories

762 Park Avenue
Youngsville, NC 27596-9470
Contact: Mr. Michael Cantwell, P.E.
Phone: 919-554-0901
Fax: 919-556-2043
E-Mail: mike.cantwell@flextronics.com
URL: http://www.flextronics.com

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: June 30, 2002

Emissions Test Methods:

NVLAP Code	*Designation*
12/CIS22	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

Immunity Test Methods:

NVLAP Code	*Designation*
12/I01	IEC 61000-4-2 (1995) and Amendment 1 (1998): Electrostatic Discharge Immunity Test
12/I02	IEC 61000-4-3 (1995) and Amendment 1 (1998): Radiated, Radio-Frequency Electromagnetic Field Immunity Test
12/I03	IEC 61000-4-4 (1995): Electrical Fast Transient/Burst Immunity Test
12/I04	IEC 61000-4-5 (1995): Surge Immunity Test
12/I05	IEC 61000-4-6 (1996): Immunity to Conducted Disturbances, Induced Radio-Frequency Fields
12/I06	IEC 61000-4-8 (1993): Power Frequency Magnetic Field Immunity Test
12/I07	IEC 61000-4-11 (1994): Voltage Dips, Short Interruptions and Voltage Variations Immunity Tests

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NVLAP LAB CODE 200096-0

Key Tronic Corp.

4424 N. Sullivan Road
P.O. Box 14687
Spokane, WA 99214-0687
Contact: Mr. James L. Adams
Phone: 509-927-5541
Fax: 509-927-5258
E-Mail: jadams1@keytronic.com

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: March 31, 2002

Emissions Test Methods:

NVLAP Code	*Designation*
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

Immunity Test Methods:

NVLAP Code	*Designation*
12/I01	IEC 61000-4-2 (1995) and Amendment 1 (1998): Electrostatic Discharge Immunity Test
12/I03	IEC 61000-4-4 (1995): Electrical Fast Transient/Burst Immunity Test

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NVLAP LAB CODE 200097-0

PEP Testing Laboratory

12-3 FL. No. 27-1,Lane 169, Kang Ning St
Hsi-Chi
Taipei Hsien
TAIWAN
Contact: Mr. Peter Kao
Phone: 886-2-2692-2097
Fax: 886-2-2695-6236
E-Mail: peplab@ms32.hiner.net

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: June 30, 2002

Emissions Test Methods:

NVLAP Code	*Designation*
12/CIS14	CISPR 14-1 (March 30, 2000): Limits and methods of measurement of radio interference characteristics of household electrical appliances, portable tools and similar electrical apparatus - Part 1: Emissions
12/CIS14a	EN 55014-1 (1993) with Amendments A1

	(1997) & A2 (1999)
12/CIS14b	AS/NZS 1044 (1995)
12/CIS14c	CNS 13783-1
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

Immunity Test Methods:

12/I01	IEC 61000-4-2 (1995) and Amendment 1 (1998): Electrostatic Discharge Immunity Test
12/I02	IEC 61000-4-3 (1995) and Amendment 1 (1998): Radiated, Radio-Frequency Electromagnetic Field Immunity Test
12/I03	IEC 61000-4-4 (1995): Electrical Fast Transient/Burst Immunity Test
12/I04	IEC 61000-4-5 (1995): Surge Immunity Test
12/I05	IEC 61000-4-6 (1996): Immunity to Conducted Disturbances, Induced Radio-Frequency Fields
12/I06	IEC 61000-4-8 (1993): Power Frequency Magnetic Field Immunity Test
12/I07	IEC 61000-4-11 (1994): Voltage Dips, Short Interruptions and Voltage Variations Immunity Tests

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NVLAP LAB CODE 200098-0

Nortel Networks BVW Lab

250 Sidney Street
Belleville, Ontario K8P 3Z3
CANADA
Contact: Mrs. Seham Fawzy
Phone: 613-967-5545
Fax: 613-967-5417
E-Mail: sfawzy@nortelnetworks.com

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: December 31, 2002

Emissions Test Methods:

NVLAP Code	*Designation*
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

Immunity Test Methods:

12/I01	IEC 61000-4-2 (1995) and Amendment 1 (1998): Electrostatic Discharge Immunity Test
12/I02	IEC 61000-4-3 (1995) and Amendment 1 (1998): Radiated, Radio-Frequency Electromagnetic Field Immunity Test
12/I03	IEC 61000-4-4 (1995): Electrical Fast Transient/Burst Immunity Test
12/I04	IEC 61000-4-5 (1995): Surge Immunity Test
12/I05	IEC 61000-4-6 (1996): Immunity to Conducted Disturbances, Induced Radio-Frequency Fields
12/I06	IEC 61000-4-8 (1993): Power Frequency Magnetic Field Immunity Test
12/I07	IEC 61000-4-11 (1994): Voltage Dips, Short Interruptions and Voltage Variations Immunity Tests

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NVLAP LAB CODE 200099-0

Spectrum Research & Testing Laboratory, Inc.

No. 101-10, Ling 8, Shan-Tong Li
Chung-Li, Taoyuan
TAIWAN
Contact: Mr. Cheng-Yang Ho
Phone: 011-886-3-4987684
Fax: 011-886-3-4986528
E-Mail: srtlab@ms17.hinet.net
URL: http://www.srtlab.com

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: December 31, 2002

Emissions Test Methods:

NVLAP Code	*Designation*
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions

12/T51	AS/NZS 3548
Immunity Test Methods:	
12/I01	IEC 61000-4-2 (1995) and Amendment 1 (1998): Electrostatic Discharge Immunity Test
12/I02	IEC 61000-4-3 (1995) and Amendment 1 (1998): Radiated, Radio-Frequency Electromagnetic Field Immunity Test
12/I03	IEC 61000-4-4 (1995): Electrical Fast Transient/Burst Immunity Test
12/I04	IEC 61000-4-5 (1995): Surge Immunity Test
12/I05	IEC 61000-4-6 (1996): Immunity to Conducted Disturbances, Induced Radio-Frequency Fields
12/I06	IEC 61000-4-8 (1993): Power Frequency Magnetic Field Immunity Test
12/I07	IEC 61000-4-11 (1994): Voltage Dips, Short Interruptions and Voltage Variations Immunity Tests

NVLAP LAB CODE 200101-0

Advanced Compliance Laboratory

6 Randolph Way
Hillsborough, NJ 08844
Contact: Mr. Wei Li
Phone: 732-560-9010
Fax: 732-560-9173
E-Mail: weili2@juno.com
URL: http://www.ac-lab.com

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: March 31, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

NVLAP LAB CODE 200102-0

Advance Data Technology Corporation

No. 47, 14 Ling, Chia Pau Tsuen,
Lin Kou Hsiang
Taipei Hsien
TAIWAN
Contact: Mr. Harris W. Lai
Phone: 886-2-26052180
Fax: 886-2-26052943
E-Mail: harris@mail.adt.com.tw
URL: http://www.adt.com.tw

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: December 31, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

NVLAP LAB CODE 200104-0

Asbestos TEM Laboratories, Inc.

1016 Greg Street
Sparks, NV 89431
Contact: Mr. R. Mark Bailey
Phone: 510-528-0108
Fax: 510-528-0109
E-Mail: MBaileyASB@aol.com

Bulk Asbestos Analysis (PLM)

Accreditation Valid Through: December 31, 2002

NVLAP LAB CODE 200107-0

Toshiba Corp., Ome Operations

2-9 Suehiro-cho
Ome Tokyo 198-8710
JAPAN
Contact: Mr. Tokio Kitayoshi
Phone: 81-428-34-1050
Fax: 81-428-30-7911
E-Mail: tokio.kitayoshi@toshiba.co.jp

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: March 31, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

NVLAP LAB CODE 200109-0

A-Pex International Co., Ltd. Yokowa Laboratory

108 Yokowa-cho, Ise-shi
Mie-ken 516-1106
JAPAN
Contact: Mr. Kazunori Nishimura
Phone: 81-596-39-1485
Fax: 81-596-39-0232
E-Mail: nisimura@a-pex.co.jp
URL: http://www.a-pex.co.jp

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: March 31, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS14	CISPR 14-1 (March 30, 2000): Limits and methods of measurement of radio interference characteristics of household electrical appliances, portable tools and similar electrical apparatus - Part 1: Emissions
12/CIS14a	EN 55014-1 (1993) with Ammendments A1 (1997) & A2 (1999)
12/CIS14b	AS/NZS 1044 (1995)
12/CIS14c	CNS 13783-1
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

NVLAP LAB CODE 200111-0

TUV Rheinland of North America, Inc.

12 Commerce Road
Newtown, CT 06470-1607
Contact: Mr. Timothy M. Dwyer
Phone: 203-426-0888 x104
Fax: 203-270-8883
E-Mail: tdwyer@us.tuv.com
URL: http://www.us.tuv.com

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: June 30, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548
Immunity Test Methods:	
12/I01	IEC 61000-4-2 (1995) and Amendment 1 (1998): Electrostatic Discharge Immunity Test
12/I02	IEC 61000-4-3 (1995) and Amendment 1 (1998): Radiated, Radio-Frequency Electromagnetic Field Immunity Test

(See 'How To Use This Directory' on page 7.)

	IEC 61000-4-4 (1995): Electrical Fast Transient/Burst Immunity Test
12/I04	IEC 61000-4-5 (1995): Surge Immunity Test
12/I05	IEC 61000-4-6 (1996): Immunity to Conducted Disturbances, Induced Radio-Frequency Fields
12/I06	IEC 61000-4-8 (1993): Power Frequency Magnetic Field Immunity Test
12/I07	IEC 61000-4-11 (1994): Voltage Dips, Short Interruptions and Voltage Variations Immunity Tests

Safety Test Methods:

12/T41	ACA TS-001
12/T50	AS/NZS 3260

NVLAP LAB CODE 200112-0

IBM Austin EMC

11400 Burnet Road, M.S. 4469
Austin, TX 78758-3493
Contact: Mr. Jerry W. Scibielski
Phone: 512-838-5816
Fax: 512-838-7101
E-Mail: scib@us.ibm.com

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: December 31, 2002

Emissions Test Methods:

NVLAP Code	*Designation*
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

Immunity Test Methods:

12/I01	IEC 61000-4-2 (1995) and Amendment 1 (1998): Electrostatic Discharge Immunity Test
12/I02	IEC 61000-4-3 (1995) and Amendment 1 (1998): Radiated, Radio-Frequency Electromagnetic Field Immunity Test
12/I03	IEC 61000-4-4 (1995): Electrical Fast Transient/Burst Immunity Test
12/I04	IEC 61000-4-5 (1995): Surge Immunity Test
12/I05	IEC 61000-4-6 (1996): Immunity to Conducted Disturbances, Induced Radio-Frequency Fields
12/I06	IEC 61000-4-8 (1993): Power Frequency Magnetic Field Immunity Test
12/I07	IEC 61000-4-11 (1994): Voltage Dips, Short Interruptions and Voltage Variations Immunity Tests

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NVLAP LAB CODE 200114-0

Cisco Systems, Inc.

170 West Tasman Drive
San Jose, CA 95134-1706
Contact: Ms. Daisy Poon
Phone: 408-526-7315
Fax: 408-526-4184
E-Mail: dpoon@cisco.com
URL: http://www.cisco.com

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: March 31, 2002

Emissions Test Methods:

NVLAP Code	*Designation*
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

NVLAP LAB CODE 200116-0

Nemko EESI, Inc.

11696 Sorrento Valley Road, Suite F
San Diego, CA 92121
Contact: Mr. John Lavery
Phone: 858-259-4946
Fax: 858-259-7170
E-Mail: j_lavery@eesi.com
URL: http://www.eesi.com

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: December 31, 2002

Emissions Test Methods:

NVLAP Code	*Designation*
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance

	characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

NVLAP LAB CODE 200117-0

Universal Compliance Laboratories

775 B Mabury Road
San Jose, CA 95133
Contact: Mr. Bob Cole
Phone: 408-453-8744
Fax: 408-453-8747
E-Mail: bob@universalcompliance.com
URL: http://www.universalcompliance.com

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: March 31, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS22	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

NVLAP LAB CODE 200118-0

Electronic Research & Service Organization/ITRI

R1500 ERSO/ITRI, Bldg. 17, 195-4
Se. 4, Chung Hsing Road
Chutung Hsinchu 310
TAIWAN
Contact: Mr. Paul Y. Liau
Phone: 886-3-5915994
Fax: 886-3-5825720
E-Mail: pyla@itri.org.tw

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: March 31, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

NVLAP LAB CODE 200119-0

Garwood Laboratories, Inc.

565 Porter Way
Placentia, CA 92870-6454
Contact: Mr. William Flower
Phone: 562-949-2727
Fax: 562-949-8757
E-Mail: billf@garwoodtestlabs.com
URL: http://www.garwoodtestlabs.com

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: December 31, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference

	Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548
Immunity Test Methods:	
12/I01	IEC 61000-4-2 (1995) and Amendment 1 (1998): Electrostatic Discharge Immunity Test
12/I02	IEC 61000-4-3 (1995) and Amendment 1 (1998): Radiated, Radio-Frequency Electromagnetic Field Immunity Test
12/I03	IEC 61000-4-4 (1995): Electrical Fast Transient/Burst Immunity Test
12/I04	IEC 61000-4-5 (1995): Surge Immunity Test
12/I05	IEC 61000-4-6 (1996): Immunity to Conducted Disturbances, Induced Radio-Frequency Fields
12/I06	IEC 61000-4-8 (1993): Power Frequency Magnetic Field Immunity Test
12/I07	IEC 61000-4-11 (1994): Voltage Dips, Short Interruptions and Voltage Variations Immunity Tests
MIL-STD-462 : Conducted Susceptibility:	
12/B17	MIL-STD-462 Version D Method CS114
MIL-STD-462 : Radiated Emissions:	
12/D04	MIL-STD-462 Version D Method RE101
MIL-STD-462 : Radiated Susceptibility:	
12/E08	MIL-STD-462 Version D Method RS101

NVLAP LAB CODE 200120-0

Chemitox EMC Research, Inc.

14979, Egusa, Sudama-cho, Kitakoma-gun
Yamanashi-ken 408-0103
JAPAN
Contact: Mr. Chris Grimes
Phone: 81-551-42-4411
Fax: 81-551-20-6002
E-Mail: chris_grimes@chemitox-emc.co.jp

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: March 31, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548
Immunity Test Methods:	
12/I01	IEC 61000-4-2 (1995) and Amendment 1 (1998): Electrostatic Discharge Immunity Test
12/I02	IEC 61000-4-3 (1995) and Amendment 1 (1998): Radiated, Radio-Frequency Electromagnetic Field Immunity Test
12/I03	IEC 61000-4-4 (1995): Electrical Fast Transient/Burst Immunity Test
12/I04	IEC 61000-4-5 (1995): Surge Immunity Test
12/I05	IEC 61000-4-6 (1996): Immunity to Conducted Disturbances, Induced Radio-Frequency Fields
12/I06	IEC 61000-4-8 (1993): Power Frequency Magnetic Field Immunity Test
12/I07	IEC 61000-4-11 (1994): Voltage Dips, Short Interruptions and Voltage Variations Immunity Tests

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NVLAP LAB CODE 200121-0

Enterasys Networks Inc.

486 Amherst Street
P.O. Box 5005
Nashua, NH 03063
Contact: Mr. John Ballew
Phone: 603-337-5222
Fax: 603-337-5142
E-Mail: jballew@enterasys.com

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: March 31, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS22	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	

12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

NVLAP LAB CODE 200124-0

White Environmental Consultants Inc.

731 I Street, Suite 201
Anchorage, AK 99501
Contact: Mr. David O. Milton
Phone: 907-258-8661
Fax: 907-258-8662
E-Mail: dmilton@wec-laboratories.com

Bulk Asbestos Analysis (PLM)

Accreditation Valid Through: December 31, 2002

NVLAP LAB CODE 200125-0

Paradyne Corporation

8545 126th Avenue N.
P.O. Box 2826
Largo, FL 33773-2826
Contact: Mr. Peter Walsh
Phone: 727-530-8381
Fax: 727-530-2428
E-Mail: pwalsh@paradyne.com
URL: http://www.paradyne.com

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: March 31, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548
Telecommunications Test Methods:	
12/CS03	CS-03
12/T01	Terminal Equipment Network Protection Standards, FCC Method - 47 CFR Part 68 - Analog and Digital
12/T01a	68.302 (Par. c,d,e,f) Environmental simulation; 68.304 Leakage current limit.; 68.306 Hazardous voltage limit.; 68.308 Signal power limit.; 68.310 Longitudinal balance limit.; 68.312 On-hook impedance limit.; 68.314 Billing protection
12/T01b	68.316 Hearing Aid Compatibility: technical standards
12/T01c	68.302 Environmental simulation (Par. a,b)

NVLAP LAB CODE 200129-0

AHD

92723 M-152
Dowagiac, MI 49047-8824
Contact: Mr. Edmund (Ted) Chaffee
Phone: 616-424-7014
Fax: 616-424-7014
E-Mail: ahd@locallink.net
URL: http://www.ahde.com

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: June 30, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

NVLAP LAB CODE 200130-0

NASA John H. Glenn Research Center at Lewis Field

21000 Brookpark Road, Mail Stop 6-4
Cleveland, OH 44135-3191
Contact: Ms. Priscilla Mobley
Phone: 216-433-8333
Fax: 216-433-8719
E-Mail: priscilla.a.mobley@grc.nasa.gov

Bulk Asbestos Analysis (PLM)

Accreditation Valid Through: March 31, 2002

NVLAP LAB CODE 200131-0

Environmental Testing and Monitoring Services, Inc.

2425 Boward Parkway, Suite 107
Virginia Beach, VA 23454
Contact: Mr. Scott J. Eggleston
Phone: 757-498-7873
Fax: 757-498-7896

Bulk Asbestos Analysis (PLM)

Accreditation Valid Through: March 31, 2002

NVLAP LAB CODE 200132-0

USG Research - Construction Systems Laboratory

700 N. Highway 45
Libertyville, IL 60048-1296
Contact: Mr. Richard T. Kaczkowski
Phone: 847-970-5255
Fax: 847-970-5299
E-Mail: rkaczkowski@usg.com

Acoustical Testing Services

Accreditation Valid Through: June 30, 2002

NVLAP Code	*Designation*
08/P03	ASTM C423
08/P06	ASTM E90
08/P33	ASTM E1111
08/P34	ASTM E1414
08/P44	ISO 354
08/P45	ISO 140, Part 3
08/P50	ISO 140, Part 9

NVLAP LAB CODE 200133-0

Electronics Testing Center, Taiwan

No.8, Lane 29, Wen-Ming Rd
Lo-Shan Tsun, Kui-shan Hsiang
Taoyuan Hsien 333
TAIWAN
Contact: Mr. Win-Po Tsai
Phone: 886-03-3276172
Fax: 886-03-3276188
E-Mail: winpo@etc.org.tw

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: June 30, 2002

Emissions Test Methods:

NVLAP Code	*Designation*
12/CIS14	CISPR 14-1 (March 30, 2000): Limits and methods of measurement of radio interference characteristics of household electrical appliances, portable tools and similar electrical apparatus - Part 1: Emissions
12/CIS14a	EN 55014-1 (1993) with Ammendments A1 (1997) & A2 (1999)
12/CIS14b	AS/NZS 1044 (1995)
12/CIS14c	CNS 13783-1
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

Immunity Test Methods:

12/I01	IEC 61000-4-2 (1995) and Amendment 1 (1998): Electrostatic Discharge Immunity Test
12/I02	IEC 61000-4-3 (1995) and Amendment 1 (1998): Radiated, Radio-Frequency Electromagnetic Field Immunity Test
12/I03	IEC 61000-4-4 (1995): Electrical Fast Transient/Burst Immunity Test
12/I04	IEC 61000-4-5 (1995): Surge Immunity Test
12/I05	IEC 61000-4-6 (1996): Immunity to Conducted Disturbances, Induced Radio-Frequency Fields
12/I06	IEC 61000-4-8 (1993): Power Frequency Magnetic Field Immunity Test
12/I07	IEC 61000-4-11 (1994): Voltage Dips, Short Interruptions and Voltage Variations Immunity Tests

NVLAP LAB CODE 200134-0

Marathon Electric - Wausau Engineering Lab.

100 East Randolph Street
P.O. Box 8003
Wausau, WI 54402-8003
Contact: Mr. Gene Sickler
Phone: 715-675-3311 x4155
Fax: 715-675-8032

Efficiency of Electric Motors

Accreditation Valid Through: December 31, 2002

NVLAP Code	*Designation*
24/M01	IEEE 112, Method B

NVLAP LAB CODE 200137-0

Philips Electronics Industries (TAIWAN) Ltd.

5, Tze Chiang 1 Road, Chungli Ind. Park
P.O. Box 123, Chungli
Chungli, Taoyuan
TAIWAN
Contact: Mr. Ronnie Yang
Phone: 886-2-454-9862
Fax: 886-3-454-9887
E-Mail: ronnie.yang@philips.com

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: June 30, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

NVLAP LAB CODE 200138-0

Hewlett Packard, Product Test Lab, San Diego

16399 W. Bernardo Drive
San Diego, CA 92127-1899
Contact: Mr. Mike Aviano
Phone: 858-655-4478
Fax: 858-655-0374
E-Mail: mike_aviano@hp.com

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: March 31, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS22	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

NVLAP LAB CODE 200139-0

PB Fasteners

1700 W. 132nd Street
P.O. Box 1157
Gardena, CA 90249-0157
Contact: Mr. Merle Oglesby
Phone: 310-323-6222
Fax: 310-329-4685

Fasteners & Metals

Accreditation Valid Through: June 30, 2002

NVLAP Code	*Designation*
Chemical Analysis	
Combustion analysis for carbon, sulfur, oxygen, nitrogen, and hydrogen	
FB/1167	SP 34-11
Dimensional Inspection	
Dimensions of fasteners - hexagon and double hexagon (12 point) and spline sockets	
FA/539	SAE AS 870
FA/540	MIL-STD-33787
External thread parameters - system 21	
FA/379	ANSI/ASME B1.3M
FA/380	FED-STD-H28/20
FA/528	MIL-S-7742
FA/533	SAE AS 8879
FA/628	MIL-S-8879
FA/940	ANSI/ASME B1.2
External thread parameters - system 22	
FA/381	ANSI/ASME B1.3M
FA/382	FED-STD-H28/20
FA/383	MIL-S-7742
FA/384	MIL-S-8879
FA/534	SAE AS 8879
FA/941	ANSI/ASME B1.2
External thread parameters - system 23	
FA/385	ANSI/ASME B1.3M
FA/386	FED-STD-H28/20
FA/387	MIL-S-7742
FA/388	MIL-S-8879
FA/535	SAE AS 8879
FB/1169	ANSI/ASME B1.2
Internal thread parameters - system 21	
FA/391	ANSI/ASME B1.3M
FA/392	FED-STD-H28/20
FA/529	MIL-S-7742
FA/536	SAE AS 8879
FA/629	MIL-S-8879
FA/942	ANSI/ASME B1.2
Internal thread parameters - system 22	
FA/393	ANSI/ASME B1.3M
FA/394	FED-STD-H28/20
FA/395	MIL-S-7742
FA/396	MIL-S-8879
FA/537	SAE AS 8879

FA/943 ANSI/ASME B1.2

Internal thread parameters - system 23

FA/397 ANSI/ASME B1.3M
FA/398 FED-STD-H28/20
FA/399 MIL-S-7742
FA/400 MIL-S-8879
FA/538 SAE AS 8879
FB/1170 ANSI/ASME B1.2

Surface texture

FA/439 ANSI/ASME B46.1

Mechanical and Physical Testing and Inspection

Adhesion of metallic coatings on fasteners

FA/532 BMS 10-85M Sec. 8.2
FA/541 QQ-P-416 Sec. 4.6.2
FB/1168 DPS 9.28

Axial tensile strength of full-size threaded fasteners

FA/271 MIL-STD-1312-8

Double shear of externally threaded fasteners

FA/257 MIL-STD-1312-13

Fatigue of full-size threaded fasteners

FA/183 MIL-STD-1312-11

Hydrogen embrittlement (stress durability) of externally threaded fasteners

FA/176 MIL-STD-1312-5

Hydrogen embrittlement (stress durability) of internally threaded fasteners

FA/178 MIL-STD-1312-14

Magnetic permeability

FA/215 MIL-I-17214

Measurement of fastener coating thickness - dimensional change method

FA/495 MIL-STD-1312-12

Measurement of fastener coating thickness - eddy-current method

FA/150 FED TM STD NO. 151 Method 520.1
FA/152 MIL-STD-1312-12

Measurement of fastener coating thickness - microscopical method

FA/163 MIL-STD-1312-12

Microhardness of fasteners

FA/189 ASTM E384
FA/193 MIL-STD-1312-6

Permanent set test of self-locking nuts

FA/109 MIL-N-25027
FA/110 NAS 3350
FB/1160 MIL-N-85729
FB/1161 MIL-N-85730
FB/1209 NASM 8922
FB/1210 NASM 8985

Recess strength test in both the installation and removal directions

FA/476 MIL-STD-1312-25

Reusability test of self-locking internally threaded fasteners

FA/124 MIL-N-25027
FA/125 NAS 3350
FB/1162 MIL-N-85729
FB/1163 MIL-N-85730
FB/1211 NASM 8922
FB/1212 NASM 8985

Rockwell hardness of fasteners

FA/201 MIL-STD-1312-6

Rockwell superficial hardness of fasteners

FA/209 MIL-STD-1312-6

Salt spray testing of fasteners

FA/166 ASTM B117
FA/168 MIL-STD-1312-1

Single shear of externally threaded fasteners

FA/256 MIL-STD-1312-20

Stress rupture of fasteners

FA/262 MIL-STD-1312-10

Tension testing of machined specimens from externally threaded fasteners

FA/475 ASTM E8

Test for embrittlement of metallic coated externally threaded fasteners

FA/525 MIL-STD-1312-5
FB/1166 QQ-P-416

Wedge tensile strength of full-size threaded fasteners

FB/1069 D2-2860

Wrench torque test of externally wrenched nuts of spline and hexagon and double hexagon (1

FA/141 MIL-N-25027
FA/142 NAS 3350
FB/1164 MIL-N-85729
FB/1165 MIL-N-85730
FB/1213 NASM 8922
FB/1214 NASM 8985

Yield strength of full-size externally threaded fasteners

FA/303 MIL-STD-1312-8
FA/593 ASTM E8

Metallography

Decarburization and case depth measurement in fasteners

FA/521 ASTM E384

Determination of grain size of fasteners

FA/331 ASTM E112

Macroscopic examination of fasteners by etching

FA/511 ASTM E340

Microscopic examination of fasteners by etching

FA/512 ASTM E407

Surface discontinuities of externally threaded fasteners

FA/357 ASTM F788/788M

Surface discontinuities of internally threaded fasteners

FA/865 ASTM F812/F812M

Nondestructive Inspection

Liquid penetrant inspection of fasteners

FA/527 ASTM E1417

Magnetic particle inspection of fasteners

FA/485 ASTM E1444

NVLAP LAB CODE 200140-0

Inventec Corp. (Taoyuan) EMC Labs

255, Jen-Ho Road Sec 2, Tachi
Taoyuan
TAIWAN
Contact: Mr. Steve Wang
Phone: 886-3-390-0000
Fax: 886-3-3908052
E-Mail: wang.steve@inventec.com

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: June 30, 2002

NVLAP Code	*Designation*
	Emissions Test Methods:
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

NVLAP LAB CODE 200141-0

MAC Fasteners, Inc.

1110 Enterprise
Ottawa, KS 66067
Contact: Mr. Donald C. Krenkel
Phone: 785-242-8812
Fax: 785-242-4616

Fasteners & Metals

Accreditation Valid Through: December 31, 2002

Dimensional Inspection

NVLAP Code	*Designation*
	External thread parameters - system 21
FA/380	FED-STD-H28/20
	External thread parameters - system 22
FA/382	FED-STD-H28/20

Mechanical and Physical Testing and Inspection

NVLAP Code	*Designation*
	Adhesion of metallic coatings on fasteners
FA/541	QQ-P-416 Sec. 4.6.2
	Axial tensile strength of full-size threaded fasteners
FA/799	NASM 1312-8
	Double shear of externally threaded fasteners
FA/880	NASM 1312-13
	Intergranular corrosion susceptibility in austentic stainless steel fasteners - nitric aci
FA/173	ASTM A262 Sec. 15-21, Practice C
	Measurement of fastener coating thickness - dimensional change method
FA/874	NASM 1312-12
	Measurement of fastener coating thickness - microscopical method
FA/873	NASM 1312-12
	Microhardness of fasteners
FA/877	NASM 1312-6
	Recess strength test in both the installation and removal directions
FA/886	NASM 1312-25
	Rockwell hardness of fasteners
FA/878	NASM 1312-6
	Rockwell superficial hardness of fasteners
FB/1004	NASM 1312-6

Metallography

NVLAP Code	*Designation*
	Decarburization and case depth measurement in fasteners
FA/521	ASTM E384
	Determination of grain size of fasteners
FA/331	ASTM E112
	Macroscopic examination of fasteners by etching
FA/511	ASTM E340
	Microscopic examination of fasteners by etching
FA/512	ASTM E407

Nondestructive Inspection

NVLAP Code	*Designation*
	Liquid penetrant inspection of fasteners
FA/527	ASTM E1417
	Magnetic particle inspection of fasteners
FA/485	ASTM E1444

NVLAP LAB CODE 200142-0

BAE Systems Controls, Inc. EMI Laboratory

600 Main Street
Johnson City, NY 13790-1888
Contact: Mr. Paul Heiland
Phone: 607-770-3771
Fax: 607-770-3922
E-Mail: paul.h.heiland.jr@baesystems.com
URL: http://www.lmcontrolsystems.com

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: June 30, 2002

NVLAP Code	*Designation*
	MIL-STD-462 : Conducted Emissions:
12/A01	MIL-STD-462 Method CE01
12/A04	MIL-STD-462 Method CE02

12/A06	MIL-STD-462 Method CE03
12/A08	MIL-STD-462 Method CE04
12/A12	MIL-STD-462 Method CE07
12/A13	MIL-STD-462 Version D Method CE101
12/A14	MIL-STD-462 Version D Method CE102
12/A16	MIL-STD-461 Version E Method CE101
12/A17	MIL-STD-461 Version E Method CE102

MIL-STD-462 : Conducted Susceptibility:

12/B01	MIL-STD-462 Method CS01
12/B02	MIL-STD-462 Method CS02
12/B05	MIL-STD-462 Method CS06
12/B08	MIL-STD-462 Method CS10
12/B09	MIL-STD-462 Method CS11
12/B10	MIL-STD-462 Method CS12
12/B11	MIL-STD-462 Method CS13
12/B12	MIL-STD-462 Version D Method CS101
12/B17	MIL-STD-462 Version D Method CS114
12/B18	MIL-STD-462 Version D Method CS115
12/B19	MIL-STD-462 Version D Method CS116
12/B20	MIL-STD-461 Version E Method CS101
12/B25	MIL-STD-461 Version E Method CS114
12/B26	MIL-STD-461 Version E Method CS115
12/B27	MIL-STD-461 Version E Method CS116

MIL-STD-462 : Radiated Emissions:

12/D01	MIL-STD-462 Method RE01
12/D02	MIL-STD-462 Method RE02
12/D04	MIL-STD-462 Version D Method RE101
12/D05	MIL-STD-462 Version D Method RE102
12/D07	MIL-STD-461 Version E Method RE101
12/D08	MIL-STD-461 Version E Method RE102

MIL-STD-462 : Radiated Susceptibility:

12/E01	MIL-STD-462 Method RS01
12/E02	MIL-STD-462 Method RS02
12/E03	MIL-STD-462 Method RS03 (Consult laboratory for field strengths available)
12/E04	MIL-STD-462 Method RS03 employing RADHAZ procedures for high level testing (Consult laboratory for field strengths available)
12/E07	MIL-STD-462 Method RS06
12/E08	MIL-STD-462 Version D Method RS101
12/E09	MIL-STD-462 Version D Method RS103
12/E11	MIL-STD-461 Version E Method RS101
12/E12	MIL-STD-461 Version E Method RS103

NVLAP LAB CODE 200143-0

Ivaco Rolling Mills, Chemistry Laboratory

Highway 17, P.O. Box 322
L'Orignal Ontario K0B 1K0
CANADA
Contact: Mr. William V. Berry
Phone: 613-675-4671 x237
Fax: 613-675-6863
E-Mail: wberry@ivacorm.com

Fasteners & Metals

Accreditation Valid Through: March 31, 2002

Chemical Analysis

NVLAP Code	*Designation*
Combustion analysis for carbon, sulfur, oxygen, nitrogen, and hydrogen	
FA/455	ASTM E1019
Optical emission spectrochemical analysis	
FA/457	ASTM E415

NVLAP LAB CODE 200144-0

Dexter Fastener Technologies, Inc.

2110 Bishop Circle E.
Dexter, MI 48130
Contact: Mr. Mike Frazier
Phone: 734-426-5200
Fax: 734-426-5870
E-Mail: mfrazier@dextech.textron.com

Fasteners & Metals

Accreditation Valid Through: September 30, 2002

NVLAP Code	*Designation*
Chemical Analysis	
Optical emission spectrochemical analysis	
FA/457	ASTM E415
Dimensional Inspection	
Dimensions of ISO grade A and B fasteners	
FA/589	JIS B1071
Dimensions of fasteners - straightness	
FA/428	ANSI/ASME B18.2.3.5M
External thread parameters - ISO	
FA/390	ISO 1502
External thread parameters - system 21	
FA/379	ANSI/ASME B1.3M
External thread parameters - system 22	
FA/381	ANSI/ASME B1.3M
Mechanical and Physical Testing and Inspection	
Axial tensile strength of full-size threaded fasteners	
FA/270	ISO 898-1 Sec. 8.2
Fatigue of full-size threaded fasteners	
FA/182	ISO 3800-1
Head soundness testing	
FA/614	ISO 898-1 Sec. 8.7
FA/615	JIS B1051 Sec. 4.2.6
Measurement of fastener coating thickness - magnetic methods	
FA/153	ASTM B499
Measurement of fastener coating thickness - microscopical method	
FA/160	ASTM B487
Microhardness of fasteners	
FA/191	ISO 6507-2
Proof load of full-size externally threaded fasteners	
FA/228	ISO 898-1 Sec. 8.4
Rockwell hardness of fasteners	
FA/197	ASTM E18
FA/200	ISO 6508

Rockwell superficial hardness of fasteners
FA/205 ASTM E18
Salt spray testing of fasteners
FA/166 ASTM B117
Tension testing of machined specimens from externally threaded fasteners
FA/282 ISO 898-1
Torque-tension of full-size threaded fasteners
FA/576 JIS B1084
Total extension at fracture of externally threaded fasteners
FA/285 ASTM F606 Sec. 3.7
Vickers hardness - test forces from 9.807 to 1176 N (1 to 120 kgf)
FA/571 JIS Z2244
Wedge tensile strength of full-size threaded fasteners
FA/294 ISO 898-1 Sec. 8.5
Yield strength of full-size externally threaded fasteners
FA/298 ASTM F606 Sec. 3.2.4

Metallography

Decarburization and case depth measurement in fasteners
FA/323 ASTM E1077
Determination of grain size of fasteners
FA/331 ASTM E112
Macroscopic examination of fasteners by etching
FA/511 ASTM E340
Microscopic examination of fasteners by etching
FA/512 ASTM E407
Surface discontinuities of externally threaded fasteners
FA/359 ISO 6157-1

NVLAP LAB CODE 200145-0

Neutron Engineering Inc.
132-1, Lane 329, Sec. 2 Palain Rd Shijir
P.O. Box 1-187, Neihu
Taipei
TAIWAN
Contact: Mr. George Yao
Phone: 886-2-26465426
Fax: 886-2-26466815
E-Mail: g.yao@neutron.com.tw
URL: http://www.neutron.com.tw

Electromagnetic Compatibility & Telecommunications
Accreditation Valid Through: June 30, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS14	CISPR 14-1 (March 30, 2000): Limits and methods of measurement of radio interference characteristics of household electrical appliances, portable tools and similar electrical apparatus - Part 1: Emissions
12/CIS14a	EN 55014-1 (1993) with Ammendments A1 (1997) & A2 (1999)
12/CIS14b	AS/NZS 1044 (1995)
12/CIS14c	CNS 13783-1
12/CIS22	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

NVLAP LAB CODE 200147-0

Electro Magnetic Test, Inc.
1547 Plymouth Street
Mountain View, CA 94043
Contact: Mr. Jay Gandhi
Phone: 650-965-4000
Fax: 650-965-3000
E-Mail: Jgemt@aol.com
URL: http://www.emtlab.com

Electromagnetic Compatibility & Telecommunications
Accreditation Valid Through: March 31, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548
Immunity Test Methods:	
12/I01	IEC 61000-4-2 (1995) and Amendment 1 (1998): Electrostatic Discharge Immunity Test
12/I02	IEC 61000-4-3 (1995) and Amendment 1 (1998): Radiated, Radio-Frequency Electromagnetic Field Immunity Test
12/I03	IEC 61000-4-4 (1995): Electrical Fast Transient/Burst Immunity Test
12/I04	IEC 61000-4-5 (1995): Surge Immunity Test
12/I05	IEC 61000-4-6 (1996): Immunity to Conducted Disturbances, Induced Radio-Frequency Fields
12/I06	

(See 'How To Use This Directory' on page 7.)

12/I07	IEC 61000-4-11 (1994): Voltage Dips, Short Interruptions and Voltage Variations Immunity Tests

Telecommunications Test Methods:

12/CS03	CS-03
12/T01	Terminal Equipment Network Protection Standards, FCC Method - 47 CFR Part 68 - Analog and Digital
12/T01a	68.302 (Par. c,d,e,f) Environmental simulation; 68.304 Leakage current limit.; 68.306 Hazardous voltage limit.; 68.308 Signal power limit.; 68.310 Longitudinal balance limit.; 68.312 On-hook impedance limit.; 68.314 Billing protection
12/T01b	68.316 Hearing Aid Compatibility: technical standards
12/T01c	68.302 Environmental simulation (Par. a,b)

NVLAP LAB CODE 200151-0

Cosmos Corporation

319 Akeno, Obata-cho
Watarai-gun Mie 519-0501
JAPAN
Contact: Mr. Kay Hamaguchi
Phone: 81-596-37-0190
Fax: 81-596-37-3609
E-Mail: cosmos@mint.or.jp
URL: http://www.safetyweb.co.jp

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: June 30, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

NVLAP LAB CODE 200152-0

InFocus Systems, Inc.

27700B SE Parkway Avenue
Wilsonville, OR 97070-9215
Contact: Mr. Don Rhodes
Phone: 503-685-8588
Fax: 503-685-8887
E-Mail: don.rhodes@infocus.com

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: June 30, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

NVLAP LAB CODE 200153-0

MacLean Fasteners - QC Laboratory

1000 Allanson Road
Mundelein, IL 60060
Contact: Mr. Robert Hammersley
Phone: 847-566-0010 x3568
Fax: 847-566-2472
E-Mail: rjh@fastener.maclean-fogg.com

Fasteners & Metals

Accreditation Valid Through: June 30, 2002

NVLAP Code	*Designation*
Dimensional Inspection	
Dimensions of ISO grade A and B fasteners	
FA/408	ISO 4759-1
Dimensions of ISO grade C fasteners	
FA/410	ISO 4759-1
Dimensions of fasteners - gaging for slotted nuts	
FA/417	ANSI/ASME B18.2.2
FA/418	ANSI/ASME B18.2.4.3M
Dimensions of fasteners - hexagon and double hexagon (12 point) and spline sockets	
FA/843	ASME/ANSI B18.2.2
FA/945	ANSI B18.2.4.1M

Internal thread parameters - ISO

FA/402	ISO 1502
FA/948	ANSI/ASME B1.16M

Internal thread parameters - system 21

FA/942	ANSI/ASME B1.2
FA/946	ANSI/ASME B1.16M

Internal thread parameters - system 22

FA/943	ANSI/ASME B1.2
FA/947	ANSI/ASME B1.16M

Mechanical and Physical Testing and Inspection

Cone proof load of internally threaded fasteners (nuts)

FA/221	ASTM F606M Sec. 4.3
FA/951	SAE J995

Hardness preparation

FA/464	ASTM F606M

Measurement of fastener coating thickness - magnetic methods

FA/155	ASTM E376

Prevailing torque

FA/217	IFI-100/107
FA/218	ISO 2320
FA/836	Ford WE 950
FA/839	Ford ES-21000-S100
FA/954	GM 9092P
FA/956	Chrysler PF-6180
FA/957	Chrysler PF-4666
FA/959	Ford ESS-M1A171-B
FA/960	Ford WZ 100

Proof load of full-size externally threaded fasteners

FA/229	SAE J429 Sec. 5.3
FA/230	SAE J1216 Sec. 3.3
FA/467	ASTM F606M Sec. 3.2.1-3.2.3

Proof load of internally threaded fasteners (nuts)

FA/237	ASTM F606M Sec. 4.2
FA/239	ISO 898-2 Sec. 8.1
FA/241	SAE J995 Sec. 5.1
FA/242	SAE J1216 Sec 4.2
FB/1192	ISO 2320
FB/1193	Chrysler PF-4666
FB/1194	Ford ES-21000-S100
FB/1195	Ford ESS-M1A171-B
FB/1205	GM 510M
FB/1206	DaimlerChrysler MS-6179

Rockwell hardness of fasteners

FA/197	ASTM E18
FA/200	ISO 6508
FA/202	SAE J417

Rockwell superficial hardness of fasteners

FA/205	ASTM E18
FA/208	ISO 1024
FA/210	SAE J417

Torque-tension of full-size threaded fasteners

FA/306	IFI-101
FA/308	SAE J174
FA/944	ISO 2320

Metallography

Decarburization and case depth measurement in fasteners

FA/323	ASTM E1077
FA/329	SAE J419
FA/330	SAE J423

Microscopic examination of fasteners by etching

FA/512	ASTM E407
FA/552	ASTM E3

Surface discontinuities of internally threaded fasteners

FA/364	ASTM F812M
FA/703	SAE J122

NVLAP LAB CODE 200157-0

Seiko Epson Corporation

80 Harashinden Hirooka
Shiojiri-City Nagano 399-0785
JAPAN
Contact: Mr. Atsushi Shinozaki
Phone: 81 263-52-5094
Fax: 81 263-54-5806
E-Mail: shinozaki.atsushi@exc.epson.co.jp

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: June 30, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548
Immunity Test Methods:	
12/I01	IEC 61000-4-2 (1995) and Amendment 1 (1998): Electrostatic Discharge Immunity Test
12/I02	IEC 61000-4-3 (1995) and Amendment 1 (1998): Radiated, Radio-Frequency Electromagnetic Field Immunity Test
12/I03	IEC 61000-4-4 (1995): Electrical Fast Transient/Burst Immunity Test
12/I04	IEC 61000-4-5 (1995): Surge Immunity Test
12/I05	IEC 61000-4-6 (1996): Immunity to Conducted Disturbances, Induced Radio-Frequency Fields

12/I06 IEC 61000-4-8 (1993): Power Frequency Magnetic Field Immunity Test
12/I07 IEC 61000-4-11 (1994): Voltage Dips, Short Interruptions and Voltage Variations Immunity Tests

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NVLAP LAB CODE 200158-0

San Shing Hardware Works Co., Ltd. Test Laboratory

Test Laboratory
355-6,1F,Chung Shan Rd Section 3,kui-Jen
Tainan
TAIWAN
Contact: Mr. Jason Yuan
Phone: 886-6-2306611 x312
Fax: 886-6-2306000
E-Mail: jcg@sanshing.com.tw

Fasteners & Metals

Accreditation Valid Through: June 30, 2002

NVLAP Code *Designation*

Chemical Analysis

Optical emission spectrochemical analysis
FA/457 ASTM E415

Dimensional Inspection

Dimensions of fasteners - flange screw heads and flange nuts
FA/566 IFI D21 p. D21

Dimensions of fasteners - gaging for slotted nuts
FA/417 ANSI/ASME B18.2.2

External thread parameters - ISO
FB/1216 ANSI B18.2.1

External thread parameters - system 21
FA/379 ANSI/ASME B1.3M
FA/940 ANSI/ASME B1.2

External thread parameters - system 22
FA/381 ANSI/ASME B1.3M
FA/941 ANSI/ASME B1.2

Internal thread parameters - ISO
FA/953 ANSI/ASME B18.2.2

Internal thread parameters - system 21
FA/391 ANSI/ASME B1.3M
FA/942 ANSI/ASME B1.2

Internal thread parameters - system 22
FA/393 ANSI/ASME B1.3M
FA/943 ANSI/ASME B1.2

Mechanical and Physical Testing and Inspection

Axial tensile strength of full-size threaded fasteners
FA/266 ASTM F606 Sec. 3.4.1-3.4.3
FA/267 ASTM F606M Sec. 3.4.1-3.4.3
FA/270 ISO 898-1 Sec. 8.2
FA/273 SAE J429

Clamp load test
FA/558 ISO 2320
FA/559 DIN 267, Part 15

Cone proof load of internally threaded fasteners (nuts)
FA/220 ASTM F606 Sec. 4.3
FA/221 ASTM F606M Sec. 4.3

Embrittlement test of washers
FA/315 SAE J238

Measurement of fastener coating thickness - X-ray methods
FA/556 ASTM B568

Measurement of fastener coating thickness - eddy-current method
FA/149 ASTM E376

Measurement of fastener coating thickness - weight of coating
FA/164 ASTM A90

Microhardness of fasteners
FA/189 ASTM E384

Prevailing torque
FA/217 IFI-100/107
FA/218 ISO 2320
FA/557 DIN 267, Part 15

Proof load of full-size externally threaded fasteners
FA/226 ASTM F606 Sec. 3.2.1-3.2.3
FA/228 ISO 898-1 Sec. 8.4
FA/229 SAE J429
FA/467 ASTM F606M Sec. 3.2.1-3.2.3

Proof load of internally threaded fasteners (nuts)
FA/236 ASTM F606 Sec. 4.2
FA/237 ASTM F606M Sec. 4.2
FA/239 ISO 898-2 Sec. 8.1
FA/241 SAE J995 Sec. 5.1
FB/1192 ISO 2320
FB/1215 IFI-100/107

Rockwell hardness of fasteners
FA/197 ASTM E18

Rockwell superficial hardness of fasteners
FA/205 ASTM E18

Salt spray testing of fasteners
FA/166 ASTM B117

Torque-tension of full-size threaded fasteners
FA/306 IFI-101

Total extension at fracture of externally threaded fasteners
FA/285 ASTM F606 Sec. 3.7
FA/286 ASTM F606M Sec. 3.7

Vickers hardness - test forces from 9.807 to 1176 N (1 to 120 kgf)
FA/492 ASTM E92

Wedge tensile strength of full-size threaded fasteners
FA/290 ASTM F606 Sec. 3.5
FA/291 ASTM F606M Sec. 3.5
FA/294 ISO 898-1 Sec. 8.5
FA/468 SAE J429

Metallography

Decarburization and case depth measurement in fasteners
FA/323 ASTM E1077
FA/561 ASTM E3
FA/562 ASTM G79

(See 'How To Use This Directory' on page 7.)

Surface discontinuities of externally threaded fasteners

FA/357	ASTM F788/788M

Surface discontinuities of internally threaded fasteners

FA/865	ASTM F812/F812M

NVLAP LAB CODE 200162-0

United States Technologies, Inc.

3505 Francis Circle
Alpharetta, GA 30004
Contact: Mr. Tim Johnson
Phone: 770-740-0717
Fax: 770-740-1508
E-Mail: tjohnson@UStech-lab.com
URL: http://www.ustech-lab.com

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: June 30, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548
Immunity Test Methods:	
12/I01	IEC 61000-4-2 (1995) and Amendment 1 (1998): Electrostatic Discharge Immunity Test
12/I02	IEC 61000-4-3 (1995) and Amendment 1 (1998): Radiated, Radio-Frequency Electromagnetic Field Immunity Test
12/I03	IEC 61000-4-4 (1995): Electrical Fast Transient/Burst Immunity Test
12/I04	IEC 61000-4-5 (1995): Surge Immunity Test
12/I05	IEC 61000-4-6 (1996): Immunity to Conducted Disturbances, Induced Radio-Frequency Fields
12/I06	IEC 61000-4-8 (1993): Power Frequency Magnetic Field Immunity Test
12/I07	IEC 61000-4-11 (1994): Voltage Dips, Short Interruptions and Voltage Variations Immunity Tests
Telecommunications Test Methods:	
12/T01	Terminal Equipment Network Protection Standards, FCC Method - 47 CFR Part 68 - Analog and Digital
12/T01a	68.302 (Par. c,d,e,f) Environmental simulation; 68.304 Leakage current limit.; 68.306 Hazardous voltage limit.; 68.308 Signal power limit.; 68.310 Longitudinal balance limit.; 68.312 On-hook impedance limit.; 68.314 Billing protection
12/T01b	68.316 Hearing Aid Compatibility: technical standards
12/T01c	68.302 Environmental simulation (Par. a,b)

NVLAP LAB CODE 200163-0

Ricoh Company, Ltd. Ohmori EMC Center

3-6, Naka-magome 1-Chome Ohta-ku
Tokyo 143-8555
JAPAN
Contact: Mr. Masashi Odawara
Phone: 81-3-3776-6281
Fax: 81-3-3777-8317
E-Mail: masashi.odawara@nts.ricoh.co.jp

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: June 30, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

NVLAP LAB CODE 200166-0

O & K Company Limited, Osaka Test Center

8-81, Nakajima 2-Chome, Nishiyodogawa-Ku
Osaka-Shi 555-0041
JAPAN
Contact: Mr. Takao Hosokawa
Phone: 06-6471-0110
Fax: 06-6472-0554
E-Mail: osaka@o-and-k.co.jp
URL: http://www.o-and-k.co.jp

Fasteners & Metals

Accreditation Valid Through: June 30, 2002

NVLAP
Code *Designation*

Chemical Analysis

Optical emission spectrochemical analysis	
FA/457	ASTM E415

NVLAP LAB CODE 200167-0

Bay Area Compliance Laboratory Corp.

230 Commercial Street, Suite 2
Sunnyvale, CA 94085
Contact: Mr. John Y. Chan
Phone: 408-732-9162
Fax: 408-732-9164
E-Mail: Johnc@baclcorp.com
URL: http://www.baclcorp.com

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: September 30, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548
Safety Test Methods:	
12/T41	ACA TS-001
12/T50	AS/NZS 3260
Telecommunications Test Methods:	
12/CS03	CS-03
12/T01	Terminal Equipment Network Protection Standards, FCC Method - 47 CFR Part 68 - Analog and Digital
12/T01a	68.302 (Par. c,d,e,f) Environmental simulation; 68.304 Leakage current limit.; 68.306 Hazardous voltage limit.; 68.308 Signal power limit.; 68.310 Longitudinal balance limit.; 68.312 On-hook impedance limit.; 68.314 Billing protection
12/T01b	68.316 Hearing Aid Compatibility: technical standards
12/T01c	68.302 Environmental simulation (Par. a,b)
12/T42	ACA TS-002
12/T44	ACA TS-004
12/T45	ACA TS-006

Energy Efficient Lighting Products

Accreditation Valid Through: September 30, 2002

NVLAP Code	*Designation*
Color Measurements	
22/C01	IES LM-58
Electrical Measurements	
22/E01	IES LM-9
22/E02	IES LM-45
22/E04	IES LM-66
22/E05	ANSI-C78.375
Life Tests	
22/L01	IES LM-40
22/L04	IES LM-65
Photometric Measurements	
22/P03a	IES LM-45 (Total Flux)
22/P05a	IES LM-66 (Total Flux)

NVLAP LAB CODE 200169-0

Kobelco Research Institute, Inc. Stock Company

2 Nadahama-Higashimachi, Nada-ku
Kobe 657-0863
JAPAN
Contact: Mr. Morifumi Nakamura
Phone: 81-78-882-8058
Fax: 81-78-882-8211

Fasteners & Metals

Accreditation Valid Through: June 30, 2002

NVLAP Code	*Designation*
Chemical Analysis	
Combustion analysis for carbon, sulfur, oxygen, nitrogen, and hydrogen	
FA/586	JIS G1211
FA/587	JIS G1215
Optical emission spectrochemical analysis	
FA/588	JIS G1253
Solution chemical analysis	
FA/585	JIS G1258

NVLAP LAB CODE 200171-0

Leland-Powell Fasteners, Inc. Fastener Testing Laboratory

8160 Highway 45 South
Martin, TN 38237
Contact: Mr. Jason Danner
Phone: 901-587-3106
Fax: 901-587-9613
E-Mail: jason@lpf.net

Fasteners & Metals

Accreditation Valid Through: December 31, 2002

NVLAP Code	*Designation*
Dimensional Inspection	

Dimensions of fasteners - straightness

FA/754	IFI 138

Dimensions of general purpose fasteners and high-volume machine assembly fasteners

FA/404	ANSI/ASME B18.18.2M

Dimensions of special purpose fasteners and fasteners for highly specialized engineered ap

FA/405	ANSI/ASME B18.18.3M

External thread parameters - system 22

FA/381	ANSI/ASME B1.3M

Mechanical and Physical Testing and Inspection

Axial tensile strength of full-size threaded fasteners

FA/273	SAE J429
FA/752	SAE J82
FB/1224	SAE J1224

Drive test

FA/248	SAE J81
FA/750	SAE J933
FB/1219	SAE J1237

Ductility test of thread rolling and self-drilling tappings screws

FA/250	SAE J81
FB/1220	SAE J1237

Hydrogen embrittlement (stress durability) of externally threaded fasteners

FA/709	SAE J81 Sec. 3.9

Measurement of fastener coating thickness - eddy-current method

FA/149	ASTM E376

Proof load of full-size externally threaded fasteners

FA/229	SAE J429 Sec. 5.3
FA/230	SAE J1216 Sec. 3.3

Proof torque test

FA/251	SAE J81
FB/1180	SAE J429
FB/1222	SAE J1237

Rockwell hardness of fasteners

FA/202	SAE J417

Rockwell superficial hardness of fasteners

FA/210	SAE J417

Torque-tension of full-size threaded fasteners

FA/308	SAE J174
FB/1181	SAE J1701

Torsional strength test of thread rolling and self-drilling tappings screws

FA/254	SAE J81
FA/751	SAE J933
FB/1223	SAE J1223

Wedge tensile strength of full-size threaded fasteners

FA/468	SAE J429 Sec. 5.5
FA/753	SAE J82

NVLAP LAB CODE 200172-0

International Technology Company (ITC)

9959 Calaveras Road
P.O. Box 543
Sunol, CA 94586-0543
Contact: Mr. Michael Gbadebo
Phone: 925-862-2944
Fax: 925-862-9013
E-Mail: itcemc@aol.com
URL: http://www.itcemc.com

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: June 30, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548
Telecommunications Test Methods:	
12/CS03	CS-03
12/T01	Terminal Equipment Network Protection Standards, FCC Method - 47 CFR Part 68 - Analog and Digital
12/T01a	68.302 (Par. c,d,e,f) Environmental simulation; 68.304 Leakage current limit.; 68.306 Hazardous voltage limit.; 68.308 Signal power limit.; 68.310 Longitudinal balance limit.; 68.312 On-hook impedance limit.; 68.314 Billing protection
12/T01b	68.316 Hearing Aid Compatibility: technical standards
12/T01c	68.302 Environmental simulation (Par. a,b)

NVLAP LAB CODE 200174-0

Training Research Co., Ltd.

2, Lane 194, Huan-Ho Street Hsichih
Taipei Hsien 221
TAIWAN
Contact: Mr. Frank Tsai
Phone: 886-2-2693-5155
Fax: 886-2-2693-4440
E-Mail: report@trclab.com.tw

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: June 30, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

NVLAP LAB CODE 200175-0

Ohtama Co., Ltd. Yamanashi EMC Test Site

1661 Oshuku Asigawa Higashi-Yatsushiro
Yamanashi
JAPAN
Contact: Mr. Etsuji Nogami
Phone: 81-552-98-2141
Fax: 81-552-98-2125

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: June 30, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

NVLAP LAB CODE 200179-0

Fastener Innovation Technology, Inc.

14601 So. Broadway
Gardena, CA 90248-1811
Contact: Mr. Jorge W. Molina
Phone: 310-538-1111
Fax: 310-538-0531
E-Mail: JWM@fitfastener.com
URL: http://www.fitfastener.com

Fasteners & Metals

Accreditation Valid Through: June 30, 2002

NVLAP Code	*Designation*
Dimensional Inspection	
Dimensions of fasteners - flange screw heads and flange nuts	
FA/712	IFI 111
FB/1139	IFI 115
Dimensions of fasteners - hexagon and double hexagon (12 point) and spline sockets	
FA/411	ANSI/ASME B18.3
FB/1140	ANSI B18.2.1
Dimensions of fasteners - straightness	
FA/423	ANSI/ASME B18.2.1
Dimensions of general purpose fasteners and high-volume machine assembly fasteners	
FA/791	NAS 527
FA/854	ANSI/ASME B18.6.4
FB/1137	NAS 9800
Dimensions of special purpose fasteners and fasteners for highly specialized engineered ap	
FB/1062	BPS-F-67
External thread parameters - ISO	
FA/594	FED-STD-H28/21
External thread parameters - system 21	
FA/380	FED-STD-H28/20
FA/628	MIL-S-8879
External thread parameters - system 22	
FA/382	FED-STD-H28/20
FA/384	MIL-S-8879
External thread parameters - system 23	
FA/386	FED-STD-H28/20
FA/388	MIL-S-8879
Surface texture	
FA/439	ANSI/ASME B46.1
Mechanical and Physical Testing and Inspection	
Axial tensile strength of full-size threaded fasteners	
FA/271	MIL-STD-1312-8
FA/530	ASTM E8

Copper sulfate test - test for free iron on the surface of corrosion resistant fasteners

FA/499 ASTM A380
FB/1138 SAE-AMS-STD-753

Double shear of externally threaded fasteners

FA/257 MIL-STD-1312-13

Elevated temperature testing capability

FA/505 MIL-STD-1312-18

Fatigue of full-size threaded fasteners

FA/183 MIL-STD-1312-11

Humidity testing of fasteners

FA/169 MIL-STD-753 Test Method 101

Hydrogen embrittlement (stress durability) of externally threaded fasteners

FA/176 MIL-STD-1312-5

Magnetic permeability

FA/214 ASTM A342 Test Method 3

Measurement of fastener coating thickness - dimensional change method

FA/495 MIL-STD-1312-12

Measurement of fastener coating thickness - microscopical method

FA/160 ASTM B487
FA/163 MIL-STD-1312-12

Microhardness of fasteners

FA/189 ASTM E384
FA/193 MIL-STD-1312-6

Proof load of full-size externally threaded fasteners

FA/226 ASTM F606 Sec. 3.2.1-3.2.3

Push out test of floating plate nuts, gang channel nuts, and anchor nuts

FA/116 MIL-N-25027

Recess strength test in both the installation and removal directions

FA/476 MIL-STD-1312-25

Reusability test of self-locking internally threaded fasteners

FA/124 MIL-N-25027

Rockwell hardness of fasteners

FA/197 ASTM E18
FA/201 MIL-STD-1312-6

Rockwell superficial hardness of fasteners

FA/209 MIL-STD-1312-6

Salt spray testing of fasteners

FA/166 ASTM B117
FA/168 MIL-STD-1312-1

Single shear of externally threaded fasteners

FA/256 MIL-STD-1312-20

Stress rupture of fasteners

FA/262 MIL-STD-1312-10

Tension testing of machined specimens from externally threaded fasteners

FA/475 ASTM E8
FA/526 MIL-STD-1312-8

Torque-out test

FA/133 MIL-N-25027

Total extension at fracture of externally threaded fasteners

FA/592 ASTM E8

Wedge tensile strength of full-size threaded fasteners

FA/289 ASTM A370
FA/290 ASTM F606 Sec. 3.5

Wrench torque test of externally wrenched nuts of spline and hexagon and double hexagon (1

FA/141 MIL-N-25027

Yield strength of full-size externally threaded fasteners

FA/593 ASTM E8

Metallography

Decarburization and case depth measurement in fasteners

FA/323 ASTM E1077
FB/1047 BPS-F-67
FB/1107 BPS-F-69

Determination of grain size of fasteners

FA/331 ASTM E112

Macroscopic examination of fasteners by etching

FA/511 ASTM E340
FB/1108 BPS-F-67
FB/1109 BPS-F-69

Microscopic examination of fasteners by etching

FA/512 ASTM E407
FB/1118 BPS-F-67
FB/1121 BPS-F-69

Surface discontinuities of externally threaded fasteners

FA/357 ASTM F788/788M

Nondestructive Inspection

Liquid penetrant inspection of fasteners

FA/371 MIL-STD-6866
FA/527 ASTM E1417

Magnetic particle inspection of fasteners

FA/485 ASTM E1444

NVLAP LAB CODE 200180-0

Fuji Component Parts USA, Inc.

4115 West 54th Street
Indianapolis, IN 46254
Contact: Mr. Vernon Pratt
Phone: 317-347-4115 231
Fax: 317-347-4123
E-Mail: fcpfuji@ix.netcom.com

Fasteners & Metals

Accreditation Valid Through: March 31, 2002

NVLAP Code *Designation*

Chemical Analysis

Optical emission spectrochemical analysis

FA/457 ASTM E415

Dimensional Inspection

External thread parameters - system 21

FA/379 ANSI/ASME B1.3M

Internal thread parameters - system 21

FA/391 ANSI/ASME B1.3M

Mechanical and Physical Testing and Inspection

Axial tensile strength of full-size threaded fasteners

FA/266 ASTM F606 Sec. 3.4.1-3.4.3

Measurement of fastener coating thickness - coulometric method

FA/567 ASTM B504

Microhardness of fasteners

FA/189 ASTM E384

Proof load of full-size externally threaded fasteners

FA/226 ASTM F606 Sec. 3.2.1-3.2.3

Proof load of internally threaded fasteners (nuts)

FA/236 ASTM F606 Sec. 4.2

Rockwell hardness of fasteners

FA/197 ASTM E18

Salt spray testing of fasteners

FA/166 ASTM B117

Wedge tensile strength of full-size threaded fasteners

FA/290 ASTM F606 Sec. 3.5

NVLAP LAB CODE 200183-0

California Screw Products

14957 Gwenchris Court
Paramount, CA 90723-3423
Contact: Mr. Ralph Terrazas
Phone: 562-633-6626
Fax: 562-633-2082
E-Mail: ralph.terrazas@calscrew.net

Fasteners & Metals

Accreditation Valid Through: March 31, 2002

NVLAP Code *Designation*

Dimensional Inspection

Dimensions of fasteners - bearing surface squareness

FB/1197 NAS 4002
FB/1201 NAS 4003

Dimensions of fasteners - flange screw heads and flange nuts

FB/1198 NAS 4002
FB/1202 NAS 4003

Dimensions of fasteners - hexagon and double hexagon (12 point) and spline sockets

FA/972 NAS 4002
FB/1200 NAS 4003

Dimensions of fasteners - straightness

FB/1196 NASM 6812

Dimensions of general purpose fasteners and high-volume machine assembly fasteners

FA/403 ANSI/ASME B18.18.1M
FA/404 ANSI/ASME B18.18.2M
FB/1199 NAS 4002
FB/1203 NAS 4003

External thread parameters - SAE fastener with MJ metric screw threads

FA/922 ANSI/ASME B1.3M

External thread parameters - system 22

FA/381 ANSI/ASME B1.3M

External thread parameters - system 23

FA/385 ANSI/ASME B1.3M

Surface texture

FA/439 ANSI/ASME B46.1

Mechanical and Physical Testing and Inspection

Axial tensile strength of full-size threaded fasteners

FA/799 NASM 1312-8

Double shear of externally threaded fasteners

FA/880 NASM 1312-13

Hydrogen embrittlement (stress durability) of externally threaded fasteners

FA/875 NASM 1312-5

Magnetic permeability

FA/214 ASTM A342 Test Method 3

Measurement of fastener coating thickness - dimensional change method

FA/874 NASM 1312-12

Measurement of fastener coating thickness - eddy-current method

FA/872 NASM 1312-12

Measurement of fastener coating thickness - microscopical method

FA/873 NASM 1312-12

Microhardness of fasteners

FA/877 NASM 1312-6

Recess strength test in both the installation and removal directions

FA/886 NASM 1312-25

Rockwell hardness of fasteners

FA/878 NASM 1312-6

Single shear of externally threaded fasteners

FA/879 NASM 1312-20

Stress rupture of fasteners

FA/881 NASM 1312-10

Metallography

Decarburization and case depth measurement in fasteners

FA/328 SAE J121
FB/1204 CSP WI-0010

Determination of grain size of fasteners

FA/331 ASTM E112

Macroscopic examination of fasteners by etching

FA/511 ASTM E340

Microscopic examination of fasteners by etching

FA/512 ASTM E407

Surface discontinuities of externally threaded fasteners

FA/357 ASTM F788/788M

NVLAP LAB CODE 200186-0

Hitachi Information Technology Co., Ltd.

456 Sakai, Nakai-machi, Ashigarakami-gun
Kanagawa 259-0157
JAPAN
Contact: Mr. Masanori Yamaji
Phone: 81-463-88-8090
Fax: 81-463-87-1723
E-Mail: myamaji@kanagawa.hitachi.co.jp

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: June 30, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548
Immunity Test Methods:	
12/I01	IEC 61000-4-2 (1995) and Amendment 1 (1998): Electrostatic Discharge Immunity Test
12/I02	IEC 61000-4-3 (1995) and Amendment 1 (1998): Radiated, Radio-Frequency Electromagnetic Field Immunity Test
12/I03	IEC 61000-4-4 (1995): Electrical Fast Transient/Burst Immunity Test
12/I04	IEC 61000-4-5 (1995): Surge Immunity Test
12/I05	IEC 61000-4-6 (1996): Immunity to Conducted Disturbances, Induced Radio-Frequency Fields
12/I06	IEC 61000-4-8 (1993): Power Frequency Magnetic Field Immunity Test
12/I07	IEC 61000-4-11 (1994): Voltage Dips, Short Interruptions and Voltage Variations Immunity Tests

NVLAP LAB CODE 200188-0

EMSL Analytical, Inc.

2001 E. 52nd Street
Indianapolis, IN 46205
Contact: Mr. Richard Harding
Phone: 317-803-2997
Fax: 317-803-3047
E-Mail: Indianapolislab@emsl.com

Bulk Asbestos Analysis (PLM)

Accreditation Valid Through: March 31, 2002

Airborne Asbestos Analysis (TEM)

Accreditation Valid Through: March 31, 2002

NVLAP LAB CODE 200189-0

Japan Quality Assurance Organization Safety & EMC Center

1-21-25, Kinuta, Setagaya-ku
Tokyo 157-8573
JAPAN
Contact: Mr. Tateo Kashiwagi
Phone: 81-3-3416-0193
Fax: 81-3-3416-8290
E-Mail: JQA00091@nifty.ne.jp
URL: http://www/jqa.or.jp

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: June 30, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

NVLAP LAB CODE 200190-0

Japan Quality Assurance Org. Chubu Testing Center Shikatsu Branch

53-1, Yamaura, Yakushiji, Shikatsu-cho
Nishikasugai-gun
Aichi 481-0005
JAPAN
Contact: Mr. Fumio Nakamoto
Phone: 81-568-23-0023
Fax: 81-568-23-0116
E-Mail: JAQ00513@nifty.ne.jp
URL: http://www.jqa.or.jp

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: June 30, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

NVLAP LAB CODE 200191-0

Japan Quality Assurance Organization Kita-Kansai Testing Center

7-7, Ishimaru 1-chome, Minoo-shi
Osaka 562-0027
JAPAN
Contact: Mr. Hiroaki Hayashi
Phone: 81-727-29-2243
Fax: 81-727-28-6848
E-Mail: JQA00616@nifty.ne.jp
URL: http://www.jqa.or.jp/

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: June 30, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

NVLAP LAB CODE 200192-0

Japan Quality Assurance Org. Safety & EMC Ctr. Tsuru EMC Branch

2096, Ohata Tanbozawa, Tsuru-shi
Yamanashi 402-0045
JAPAN
Contact: Mr. Tateo Kashiwagi
Phone: 81-3-3416-0193
Fax: 81-3-3416-8290
E-Mail: JQA00091@nifty.ne.jp
URL: http://www.jqa.or.jp

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: June 30, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

NVLAP LAB CODE 200198-0

IBM Yamato EMC Engineering

1623-14, Shimotsuruma
Yamato Kanagawa 242-8502
JAPAN
Contact: Mr. Akihisa Sakurai
Phone: 81-462-73-2613
Fax: 81-462-73-7420
E-Mail: akihisa@jp.ibm.com

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: June 30, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS22	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

NVLAP LAB CODE 200200-0

IBM RTP PSG EMC Test Labs

3039 Cornwallis Road
Research Triangle Park, NC 27709-2195
Contact: Mr. Randy Smith
Phone: 919-543-0837
Fax: 919-254-7778
E-Mail: smithran@us.ibm.com

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: June 30, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

NVLAP LAB CODE 200201-0

Intertek Testing Services

1365 Adams Court
Menlo Park, CA 94025
Contact: Mr. John D. Quigley
Phone: 650-463-2948
Fax: 650-463-2910
E-Mail: jquigley@itsqs.com
URL: http://www.etlsemko.com

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: June 30, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548
Telecommunications Test Methods:	
12/CS03	CS-03
12/T01	Terminal Equipment Network Protection Standards, FCC Method - 47 CFR Part 68 - Analog and Digital
12/T01a	68.302 (Par. c,d,e,f) Environmental simulation; 68.304 Leakage current limit.; 68.306 Hazardous voltage limit.; 68.308 Signal power limit.; 68.310 Longitudinal balance limit.; 68.312 On-hook impedance limit.; 68.314 Billing protection
12/T01b	68.316 Hearing Aid Compatibility: technical standards
12/T01c	68.302 Environmental simulation (Par. a,b)

NVLAP LAB CODE 200202-0

NOVA Machine Products

18001 Sheldon Road
Middleburg Heights, OH 44130-2471
Contact: Mr. David Nenstiel
Phone: 216-898-8017
Fax: 216-267-8515
E-Mail: dnenstiel@novamachine.com
URL: http://www.lab@novamachine.com

Fasteners & Metals

Accreditation Valid Through: December 31, 2002

Chemical Analysis

Optical emission spectrochemical analysis

NVLAP Code	*Designation*
FA/457	ASTM E415
FA/459	ASTM E1086

Spot test analysis

FA/748	Alloy Detector Mark II

Dimensional Inspection

Dimensions of ISO grade A and B fasteners

FA/738	ISO 4014
FA/739	ISO 4017
FA/740	ISO 4032

Dimensions of ISO grade C fasteners

FA/741	ISO 4016
FA/742	ISO 4018
FA/743	ISO 4034

Dimensions of fasteners - bearing surface squareness

FA/745	ANSI B18.2.1
FA/746	ASME/ANSI B18.2.2
FA/747	ASME/ANSI B18.3

Dimensions of fasteners - flange screw heads and flange nuts

FA/744	ANSI B18.2.1

Dimensions of fasteners - gaging for slotted nuts

FA/417	ANSI/ASME B18.2.2

Dimensions of fasteners - hexagon and double hexagon (12 point) and spline sockets

FA/411	ANSI/ASME B18.3

Dimensions of fasteners - straightness

FA/423	ANSI/ASME B18.2.1

Dimensions of general purpose fasteners and high-volume machine assembly fasteners

FA/403	ANSI/ASME B18.18.1M
FA/404	ANSI/ASME B18.18.2M

Dimensions of special purpose fasteners and fasteners for highly specialized engineered ap

FA/405	ANSI/ASME B18.18.3M
FA/406	ANSI/ASME B18.18.4M

External thread parameters - ISO

FA/728	ISO 68
FA/729	ISO 261
FA/730	ISO 262
FA/731	ISO 965-1
FA/732	ISO 965-2

External thread parameters - system 21

FA/379	ANSI/ASME B1.3M

External thread parameters - system 22

FA/381	ANSI/ASME B1.3M

External thread parameters - system 23

FA/385	ANSI/ASME B1.3M

Internal thread parameters - ISO

FA/733	ISO 68
FA/734	ISO 261
FA/735	ISO 262
FA/736	ISO 965-1
FA/737	ISO 965-2

Internal thread parameters - system 21

FA/391	ANSI/ASME B1.3M

Internal thread parameters - system 22

FA/393	ANSI/ASME B1.3M

Internal thread parameters - system 23

FA/397	ANSI/ASME B1.3M

Surface texture

FA/439	ANSI/ASME B46.1

Mechanical and Physical Testing and Inspection

Axial tensile strength of full-size threaded fasteners

FA/265	ASTM A370 Sec. A3.2.1.4
FA/266	ASTM F606 Sec. 3.4.1-3.4.3
FA/273	SAE J429
FA/274	SAE J1216
FA/687	ISO 6892

Compression load of compressible-washer-type direct tension indicators

FA/312	ASTM F959

Cone proof load of internally threaded fasteners (nuts)

FA/220	ASTM F606 Sec. 4.3

Embrittlement test of washers

FA/313	ASME B18.21.1

Hardness preparation

FA/482	ASTM F606

Hydrogen embrittlement (stress durability) of externally threaded fasteners

FA/176	MIL-STD-1312-5

Hydrogen embrittlement (stress durability) of internally threaded fasteners

FA/178	MIL-STD-1312-14

Proof load of full-size externally threaded fasteners

FA/225	ASTM A370 Sec. A3.2.1.1-A3.2.1.3
FA/226	ASTM F606 Sec. 3.2.1-3.2.3
FA/229	SAE J429 Sec. 5.3
FA/230	SAE J1216 Sec. 3.3

Proof load of internally threaded fasteners (nuts)

FA/235	ASTM A370 Sec. A3.5.1
FA/236	ASTM F606 Sec. 4.2
FA/241	SAE J995 Sec. 5.1

Recovery test of washers

FA/726	ASME/ANSI B18.21.1

Rockwell hardness of fasteners

FA/196	ASTM A370 Sec. 18
FA/197	ASTM E18
FA/200	ISO 6508
FA/202	SAE J417

(See 'How To Use This Directory' on page 7.)

Rockwell superficial hardness of fasteners

FA/205	ASTM E18
FA/206	ASTM A370 Sec. 18
FA/210	SAE J417

Temper test of lock washers

FA/319	ASME B18.21.1

Tension testing of machined specimens from externally threaded fasteners

FA/278	ASTM A370
FA/279	ASTM F606 Sec. 3.6
FA/283	SAE J429
FA/475	ASTM E8
FA/580	ISO 6892

Test for embrittlement of metallic coated externally threaded fasteners

FA/179	ASTM F606 Sec. 7
FA/724	ASTM A143

Torque-tension of full-size threaded fasteners

FA/307	MIL-STD-1312-15

Total extension at fracture of externally threaded fasteners

FA/285	ASTM F606 Sec. 3.7
FA/725	ISO 6892

Twist test of lock washers

FA/321	ASME B18.21.1

Wedge tensile strength of full-size threaded fasteners

FA/289	ASTM A370
FA/290	ASTM F606 Sec. 3.5
FA/468	SAE J429 Sec. 5.5
FA/469	SAE J1216 Sec. 3.6
FA/688	ISO 6892

Metallography

Surface discontinuities of externally threaded fasteners

FA/357	ASTM F788/788M
FA/359	ISO 6157-1
FA/360	ISO 6157-3
FA/361	SAE J123

Surface discontinuities of internally threaded fasteners

FA/363	ASTM F812
FA/365	SAE J122
FA/727	ISO 6157-2

Nondestructive Inspection

Liquid penetrant inspection of fasteners

FA/367	ASTM E165
FA/370	MIL-STD-271
FA/371	MIL-STD-6866
FA/372	SAE J426
FA/527	ASTM E1417

Magnetic particle inspection of fasteners

FA/374	ASTM E709
FA/376	MIL-STD-271
FA/377	MIL-STD-1949
FA/378	SAE J420
FA/485	ASTM E1444
FB/1208	ASTM A275/A275M

NVLAP LAB CODE 200203-0

Fuji Buhin Industries Inc.

997-14 Wakiya-Cho
Ohta Gunma 373-8501
JAPAN
Contact: Mr. Shinji Kanai
Phone: 276-31-2311
Fax: 276-31-9621
E-Mail: info@fbk-fuji.co.jp

Fasteners & Metals

Accreditation Valid Through: September 30, 2002

NVLAP Code	*Designation*

Dimensional Inspection

Internal thread parameters - system 21

FA/621	JIS B0251
FA/622	JIS B0252
FA/623	JIS B1071

Mechanical and Physical Testing and Inspection

Axial tensile strength of full-size threaded fasteners

FA/574	JIS B1051 Sec. 4.2.2

Measurement of fastener coating thickness - coulometric method

FA/597	JIS H8501

Microhardness of fasteners

FA/620	JIS Z2244

Prevailing torque

FA/600	JIS B1056

Proof load of internally threaded fasteners (nuts)

FA/601	JIS B1052

Rockwell hardness of fasteners

FA/572	JIS Z2245

Salt spray testing of fasteners

FA/569	JIS Z2371

Wedge tensile strength of full-size threaded fasteners

FA/575	JIS B1051 Sec. 4.2.3

NVLAP LAB CODE 200204-0

EMSL Analytical, Inc.

19595 NE 10th Ave., Bay C
N. Miami Beach, FL 33179
Contact: Ms. Kimberly A. Wallace
Phone: 305-650-0577
Fax: 305-650-0578
E-Mail: kwallace@emsl.com
URL: http://www.emsl.com

Bulk Asbestos Analysis (PLM)

Accreditation Valid Through: March 31, 2002

Airborne Asbestos Analysis (TEM)

Accreditation Valid Through: March 31, 2002

NVLAP LAB CODE 200207-0

Kansai Electronic Industry Development Center, Ikoma Testing Lab.
12128 Takayama-cho
Ikoma Nara 630-0101
JAPAN
Contact: Mr. Teru Kawahara
Phone: 0743-78-0283
Fax: 0743-79-1014

URL: http://www.kec.or.jp/

Electromagnetic Compatibility & Telecommunications
Accreditation Valid Through: June 30, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

NVLAP LAB CODE 200208-0

Ingersoll Fasteners
390 Thomas Street
Ingersoll Ontario N5C 3K3
CANADA
Contact: Mr. Alan Palmer
Phone: 519-485-4610
Fax: 519-485-2435
E-Mail: apalmer@ivaco.com

Fasteners & Metals
Accreditation Valid Through: June 30, 2002

NVLAP Code	*Designation*
Dimensional Inspection	
Dimensions of general purpose fasteners and high-volume machine assembly fasteners	
FA/404	ANSI/ASME B18.18.2M
External thread parameters - system 21	
FA/379	ANSI/ASME B1.3M
External thread parameters - system 22	
FA/381	ANSI/ASME B1.3M
Internal thread parameters - system 21	
FA/391	ANSI/ASME B1.3M
Mechanical and Physical Testing and Inspection	
Axial tensile strength of full-size threaded fasteners	
FA/273	SAE J429
FA/578	SAE J1216 Sec. 3.5
Cone proof load of internally threaded fasteners (nuts)	
FA/220	ASTM F606 Sec. 4.3
Measurement of fastener coating thickness - magnetic methods	
FA/153	ASTM B499
Microhardness of fasteners	
FA/189	ASTM E384
Proof load of full-size externally threaded fasteners	
FA/229	SAE J429 Sec. 5.3
FA/577	SAE J1216 Sec. 3.3
Proof load of internally threaded fasteners (nuts)	
FA/241	SAE J995 Sec. 5.1
Rockwell hardness of fasteners	
FA/197	ASTM E18
Rockwell superficial hardness of fasteners	
FA/205	ASTM E18
Salt spray testing of fasteners	
FA/166	ASTM B117
Tension testing of machined specimens from externally threaded fasteners	
FA/278	ASTM A370
Wedge tensile strength of full-size threaded fasteners	
FA/468	SAE J429 Sec. 5.5
FA/579	SAE J1216 Sec. 3.6
Metallography	
Decarburization and case depth measurement in fasteners	
FA/328	SAE J121
Macroscopic examination of fasteners by etching	
FA/337	SAE J1061
Microscopic examination of fasteners by etching	
FA/344	SAE J121
Surface discontinuities of externally threaded fasteners	
FA/362	SAE J1061
Surface discontinuities of internally threaded fasteners	
FA/363	ASTM F812

NVLAP LAB CODE 200212-0

Sundram Fasteners Limited (Inhouse test laboratory)

Padi
Chennai (Madras),Tamil Nadu 600 050
INDIA
Contact: Mr. Sampathkumar Moorthy
Phone: 91-44-852-1870
Fax: 91-44-853-5435

Fasteners & Metals

Accreditation Valid Through: September 30, 2002

Dimensional Inspection

NVLAP Code	*Designation*
Dimensions of ISO grade A and B fasteners	
FA/408	ISO 4759-1
Dimensions of ISO grade C fasteners	
FA/410	ISO 4759-1
Dimensions of fasteners - flange screw heads and flange nuts	
FA/669	ISO 4161
FA/670	ISO 4162
Dimensions of fasteners - gaging for slotted nuts	
FA/980	ISO 4759-2
Dimensions of fasteners - straightness	
FA/668	ISO 4759-1
Dimensions of general purpose fasteners and high-volume machine assembly fasteners	
FA/665	ISO 4759-1
External thread parameters - ISO	
FA/390	ISO 1502
External thread parameters - SAE fastener with MJ metric screw threads	
FA/389	SAE MA1566
FA/661	ISO 4759-1
FA/662	ISO 1502
External thread parameters - system 21	
FA/659	ISO 4759-1
FA/660	ISO 1502
Internal thread parameters - ISO	
FA/402	ISO 1502
FA/664	ISO 4759-1
Internal thread parameters - SAE fastener with MJ metric screw threads	
FA/979	ISO 4759-1
Surface texture	
FB/1207	IS 3073

Mechanical and Physical Testing and Inspection

Axial tensile strength of full-size threaded fasteners	
FA/266	ASTM F606 Sec. 3.4.1-3.4.3
FA/270	ISO 898-1 Sec. 8.2
FA/273	SAE J429
FA/274	SAE J1216
Brinell hardness of fasteners	
FA/466	ISO 6506
Cone proof load of internally threaded fasteners (nuts)	
FA/220	ASTM F606 Sec. 4.3
FA/221	ASTM F606M Sec. 4.3
FA/223	SAE J122 Sec. 4.3
Measurement of fastener coating thickness - X-ray methods	
FA/556	ASTM B568
Microhardness of fasteners	
FA/657	ASTM E92
Prevailing torque	
FA/217	IFI-100/107
FA/218	ISO 2320
Proof load of full-size externally threaded fasteners	
FA/226	ASTM F606 Sec. 3.2.1-3.2.3
FA/228	ISO 898-1 Sec. 8.4
FA/229	SAE J429 Sec. 5.3
FA/230	SAE J1216 Sec. 3.3
FA/467	ASTM F606M Sec. 3.2.1-3.2.3
Proof load of internally threaded fasteners (nuts)	
FA/236	ASTM F606 Sec. 4.2
FA/237	ASTM F606M Sec. 4.2
FA/239	ISO 898-2 Sec. 8.1
FA/240	ISO 898-6 Sec. 8.1
FA/241	SAE J995 Sec. 5.1
Rockwell hardness of fasteners	
FA/197	ASTM E18
FA/200	ISO 6508
Salt spray testing of fasteners	
FA/166	ASTM B117
Tension testing of machined specimens from externally threaded fasteners	
FA/279	ASTM F606 Sec. 3.6
FA/280	ASTM F606M Sec. 3.6
FA/282	ISO 898-1
FA/283	SAE J429
Torque-tension of full-size threaded fasteners	
FA/306	IFI-101
FA/308	SAE J174
FA/944	ISO 2320
Vickers hardness - test forces from 9.807 to 1176 N (1 to 120 kgf)	
FA/658	ISO 6507-1
Wedge tensile strength of full-size threaded fasteners	
FA/290	ASTM F606 Sec. 3.5
FA/291	ASTM F606M Sec. 3.5
FA/294	ISO 898-1 Sec. 8.5
FA/468	SAE J429 Sec. 5.5
FA/469	SAE J1216 Sec. 3.6
Yield strength of full-size externally threaded fasteners	
FA/298	ASTM F606 Sec. 3.2.4
FA/300	ASTM F606M Sec. 3.2.4

Metallography

Decarburization and case depth measurement in fasteners	
FA/323	ASTM E1077
FA/328	SAE J121

(See 'How To Use This Directory' on page 7.)

FA/329	SAE J419
FA/330	SAE J423

Determination of grain size of fasteners

FA/331	ASTM E112
FA/333	SAE J418

Macroscopic examination of fasteners by etching

FA/334	ISO 6157-1
FA/335	ISO 6157-3
FA/336	SAE J123

Surface discontinuities of externally threaded fasteners

FA/357	ASTM F788/788M
FA/361	SAE J123

Surface discontinuities of internally threaded fasteners

FA/365	SAE J122
FA/865	ASTM F812/F812M

Nondestructive Inspection

Magnetic particle inspection of fasteners

FA/374	ASTM E709
FA/378	SAE J420

NVLAP LAB CODE 200214-0

Underwriters Laboratories Inc.

2600 N.W. Lake Road
Camas, WA 98607-8542
Contact: Mr. Rick A. Titus
Phone: 847-272-8800
Fax: 847-509-6321
E-Mail: Rick.A.Titus@us.ul.com
URL: http://www.ul.com

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: June 30, 2002

Emissions Test Methods:

NVLAP Code	*Designation*
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

Immunity Test Methods:

12/I01	IEC 61000-4-2 (1995) and Amendment 1 (1998): Electrostatic Discharge Immunity Test
12/I02	IEC 61000-4-3 (1995) and Amendment 1 (1998): Radiated, Radio-Frequency Electromagnetic Field Immunity Test
12/I03	IEC 61000-4-4 (1995): Electrical Fast Transient/Burst Immunity Test
12/I04	IEC 61000-4-5 (1995): Surge Immunity Test
12/I05	IEC 61000-4-6 (1996): Immunity to Conducted Disturbances, Induced Radio-Frequency Fields
12/I06	IEC 61000-4-8 (1993): Power Frequency Magnetic Field Immunity Test
12/I07	IEC 61000-4-11 (1994): Voltage Dips, Short Interruptions and Voltage Variations Immunity Tests

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NVLAP LAB CODE 200215-0

Sumitomo Metals (Kokura), Ltd. Quality System Section

Quality System Section
1, Konomi-machi, Kokurakita-ku
Kitakyushu 803-0803
JAPAN
Contact: Mr. Masanori Sakamoto
Phone: 81-93-581-3289
Fax: 81-93-561-8099

Fasteners & Metals

Accreditation Valid Through: September 30, 2002

Chemical Analysis

Combustion analysis for carbon, sulfur, oxygen, nitrogen, and hydrogen

NVLAP Code	*Designation*
FA/586	JIS G1211
FA/587	JIS G1215
FB/1189	JIS G1228

Optical emission spectrochemical analysis

FA/588	JIS G1253
FA/681	JIS G1258

Solution chemical analysis

FA/680	JIS G1227
FB/1182	JIS G1212
FB/1183	JIS G1213
FB/1184	JIS G1214
FB/1185	JIS G1216
FB/1186	JIS G1217
FB/1187	JIS G1218
FB/1188	JIS G1219
FB/1191	JIS G1257

X-ray fluorescence (XRF) spectrochemical analysis

FB/1190	JIS G1256

NVLAP LAB CODE 200216-0

Battelle - Pacific Northwest National Laboratory

Battelle Boulevard (Mail Stop P7-02)
P.O. Box 999
Richland, WA 99352-4553
Contact: Mr. Bruce A. Rathbone
Phone: 509-376-0917
Fax: 509-373-0167
E-Mail: bruce.rathbone@pnl.gov
URL: http://www.pnl.gov/eshs/index.html

Ionizing Radiation Dosimetry
Accreditation Valid Through: September 30, 2002

This facility has been evaluated and deemed competent to process the radiation dosimeters listed below through employing the Harshaw automatic reader model 8800 and manual reader model 6600.

This facility is accredited to process the following dosimeters by virtue of actual demonstration of compliance with ANSI HPS N13.11-1993 and ANSI HPS N13.32-1995 through testing.

Harshaw Card 7776 (15, 15, 6, 15) in a Type 8825 holder for ANSI-N13.11 categories I, II, IIIA, IV, VC, VI, VII, VIII.

Harshaw Combo 7666 (15, 15, 6, 15) in a type 8816 holder for ANSI-N13.11 category VIII.

Harshaw extremity TLD XD-740 (TLD-700) in a finger ring holder for ANSI HPS N13.32 (NIST Handbook 150-4, Table 2) categories I, II, IIIA, IVA, VC.

NVLAP LAB CODE 200217-0

Tokin EMC Engineering Co., Ltd. Kawasaki Facility

398, Shiboguchi Takatsu-ku
Kawasaki-city, Kanagawa 213
JAPAN
Contact: Mr. Hiro Shida
Phone: 81-298-37-2400
Fax: 81-298-37-2401
E-Mail: shida@tee.tokin.co.jp

Electromagnetic Compatibility & Telecommunications
Accreditation Valid Through: September 30, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

NVLAP LAB CODE 200218-0

Tokin EMC Engineering Co., Ltd. Osaka Testing Laboratory

49, Aza-Miyanowaki, Sakai
Sanda-city, Hyogo 669-14
JAPAN
Contact: Mr. Motoji Nakai
Phone: 81-795-69-1290
Fax: 81-795-69-0079
E-Mail: nakai@tee.tokin.co.jp

Electromagnetic Compatibility & Telecommunications
Accreditation Valid Through: September 30, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

NVLAP LAB CODE 200219-0

Tokin EMC Engineering Co., Ltd. Nagoya Testing Laboratory

1684, Nishinoda, Nyugawakami
Daian-cho, Inabe-gun, Mie 511-0261
JAPAN
Contact: Mr. Motoji Nakai
Phone: 81-795-69-1290
Fax: 81-795-69-0079
E-Mail: nakai@tee.tokin.co.jp

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: September 30, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

NVLAP LAB CODE 200220-0

SK Tech Co., LTD.

820-2, Wolmoon-Ri, WaBu-up
Namyangju-si, Kyunggi-Do 472-900
KOREA
Contact: Mr. Jae-Yeong Hyun
Phone: 82 31 576 2204
Fax: 82 31 576 2205
E-Mail: ktemc@unitel.co.kr
URL: http://www.skemc.co.kr

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: September 30, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS14	CISPR 14-1 (March 30, 2000): Limits and methods of measurement of radio interference characteristics of household electrical appliances, portable tools and similar electrical apparatus - Part 1: Emissions
12/CIS14a	EN 55014-1 (1993) with Ammendments A1 (1997) & A2 (1999)
12/CIS14b	AS/NZS 1044 (1995)
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

NVLAP LAB CODE 200221-0

Tokin EMC Engineering Co., Ltd. Tsukuba Testing Laboratory

28-1, Aza-Kitahara
Ohaza- Hanashimashinden
Tsukuba-city, Ibaraki 305
JAPAN
Contact: Mr. Hiro Shida
Phone: 81-298-37-2400
Fax: 81-298-37-2401
E-Mail: shida@tee.tokin.co.jp

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: September 30, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

(See 'How To Use This Directory' on page 7.)

NVLAP LAB CODE 200222-0

NAWC-Aircraft Div. Lakehurst Electromagnetic Interference Lab.

Highway 547, 355-2, Code 48L500B
Lakehurst, NJ 08733-5100
Contact: Mr. Ralph Kanzler
Phone: 732-323-7051
Fax:
E-Mail: kanslerrw@lakehurst.navy.mil
URL: http://www.lakehurst.navy.mil

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: June 30, 2002

NVLAP Code	*Designation*
MIL-STD-462 : Conducted Emissions:	
12/A01	MIL-STD-462 Method CE01
12/A04	MIL-STD-462 Method CE02
12/A06	MIL-STD-462 Method CE03
12/A12	MIL-STD-462 Method CE07
12/A13	MIL-STD-462 Version D Method CE101
12/A16	MIL-STD-461 Version E Method CE101
MIL-STD-462 : Conducted Susceptibility:	
12/B01	MIL-STD-462 Method CS01
12/B02	MIL-STD-462 Method CS02
12/B05	MIL-STD-462 Method CS06
12/B08	MIL-STD-462 Method CS10
12/B09	MIL-STD-462 Method CS11
MIL-STD-462 : Radiated Emissions:	
12/D01	MIL-STD-462 Method RE01
12/D02	MIL-STD-462 Method RE02
MIL-STD-462 : Radiated Susceptibility:	
12/E01	MIL-STD-462 Method RS01
12/E02	MIL-STD-462 Method RS02
12/E04	MIL-STD-462 Method RS03 employing RADHAZ procedures for high level testing (Consult laboratory for field strengths available)
12/E07	MIL-STD-462 Method RS06

NVLAP LAB CODE 200229-0

Minebea Co., Ltd. Fujisawa Manufacturing Unit

1-1-1 Katase
Fujisawa, Kanagawa 251-8531
JAPAN
Contact: Mr. Yukio Shimada
Phone: 0466-23-2137
Fax: 0466-23-2173

Fasteners & Metals

Accreditation Valid Through: March 31, 2002

NVLAP
Code *Designation*

Chemical Analysis

Combustion analysis for carbon, sulfur, oxygen, nitrogen, and hydrogen

FA/472	ASTM E1447

Dimensional Inspection

Dimensions of fasteners - bearing surface squareness	
FA/649	JIS B1071
Dimensions of fasteners - hexagon and double hexagon (12 point) and spline sockets	
FA/539	SAE AS 870
FA/790	SBAC RS680
Dimensions of fasteners - straightness	
FA/648	JIS B1071
Dimensions of general purpose fasteners and high-volume machine assembly fasteners	
FA/607	JIS B1071
FA/791	NAS 527
External thread parameters - system 21	
FA/379	ANSI/ASME B1.3M
FA/380	FED-STD-H28/20
External thread parameters - system 22	
FA/381	ANSI/ASME B1.3M
FA/382	FED-STD-H28/20
External thread parameters - system 23	
FA/385	ANSI/ASME B1.3M
FA/386	FED-STD-H28/20
Surface texture	
FA/439	ANSI/ASME B46.1
FA/650	JIS B1071
FA/771	BS 1134, Part 1

Mechanical and Physical Testing and Inspection

Axial tensile strength of full-size threaded fasteners	
FA/266	ASTM F606 Sec. 3.4.1-3.4.3
FA/574	JIS B1051 Sec. 4.2.2
FA/799	NASM 1312-8
Double shear of externally threaded fasteners	
FA/880	NASM 1312-13
Elevated temperature testing capability	
FB/1158	NASM 1312-18
Fatigue of full-size threaded fasteners	
FA/876	NASM 1312-11
Hardness preparation	
FA/482	ASTM F606
Head soundness testing	
FA/615	JIS B1051 Sec. 4.2.6
Humidity testing of fasteners	
FB/1159	AMS-QQ-P-35
Measurement of fastener coating thickness - dimensional change method	
FA/874	NASM 1312-12
Measurement of fastener coating thickness - eddy-current method	
FA/618	JIS H8501
Measurement of fastener coating thickness - microscopical method	
FA/640	JIS H8501
FA/873	NASM 1312-12
Measurement of fastener coating thickness - weight of coating	
FA/619	JIS H8501

Microhardness of fasteners

FA/620	JIS Z2244
FA/642	JIS B1051 Sec. 4.2.5
FA/877	NASM 1312-6

Proof load of full-size externally threaded fasteners

FA/573	JIS B1051 Sec. 4.2.4

Recess strength test in both the installation and removal directions

FA/886	NASM 1312-25

Rockwell hardness of fasteners

FA/197	ASTM E18
FA/572	JIS Z2245
FA/707	JIS B1051 Sec. 4.2.5
FA/765	BS EN 10109-1
FA/878	NASM 1312-6

Rockwell superficial hardness of fasteners

FA/205	ASTM E18
FA/766	BS EN 10109-1
FB/1004	NASM 1312-6

Salt spray testing of fasteners

FA/166	ASTM B117
FA/569	JIS Z2371
FB/1032	NASM 1312-1

Stress rupture of fasteners

FA/260	ASTM E139
FA/767	BS 4A 4,Part 1,Sec 3

Tension testing of machined specimens from externally threaded fasteners

FA/581	JIS B1051 Sec. 4.2.1
FA/582	JIS Z2241
FA/768	BS 4A 4,Part 1,Sec 1

Wedge tensile strength of full-size threaded fasteners

FA/290	ASTM F606 Sec. 3.5
FA/575	JIS B1051 Sec. 4.2.3

Metallography

Decarburization and case depth measurement in fasteners

FA/645	JIS B1051
FB/1157	NASM 1312-6

Determination of grain size of fasteners

FA/331	ASTM E112

Macroscopic examination of fasteners by etching

FA/511	ASTM E340
FA/769	AMS 7477
FA/780	SBAC TS21
FA/782	SBAC TS22
FA/783	SBAC TS23
FA/786	SBAC TS24
FA/787	SBAC TS25

Microscopic examination of fasteners by etching

FA/512	ASTM E407
FA/770	AMS 7477
FA/781	SBAC TS21
FA/784	SBAC TS22
FA/785	SBAC TS23
FA/788	SBAC TS24
FA/789	SBAC TS25

Surface discontinuities of externally threaded fasteners

FA/603	JIS B1043
FA/646	JIS B1041

Nondestructive Inspection

Liquid penetrant inspection of fasteners

FA/371	MIL-STD-6866
FA/527	ASTM E1417

Magnetic particle inspection of fasteners

FA/377	MIL-STD-1949
FA/485	ASTM E1444

NVLAP LAB CODE 200230-0

Wolverine Plating Corp.

29456 Groesbeck Highway
Roseville, MI 48066-1943
Contact: Mr. Kenneth Wrobel
Phone: 810-771-5000
Fax: 810-771-5830
E-Mail: wolvpltg@aol.com

Fasteners & Metals

Accreditation Valid Through: December 31, 2002

NVLAP Code	*Designation*

Mechanical and Physical Testing and Inspection

Adhesion of metallic coatings on fasteners

FA/143	ASTM B571

Measurement of fastener coating thickness - X-ray methods

FA/556	ASTM B568

Salt spray testing of fasteners

FA/166	ASTM B117

NVLAP LAB CODE 200232-0

LA Testing

159 Pasadena Avenue
S. Pasadena, CA 91030
Contact: Mr. Derrick Tanner
Phone: 323-254-9960
Fax: 323-254-9982

Bulk Asbestos Analysis (PLM)

Accreditation Valid Through: June 30, 2002

Airborne Asbestos Analysis (TEM)

Accreditation Valid Through: June 30, 2002

NVLAP LAB CODE 200234-0

International Standards Laboratory

No. 120, Lane , 180 San Ho Tsuen
Hsin Ho Road, Lung-Tan Hsiang
Tao Yaun County
TAIWAN
Contact: Mr. Easy Lai
Phone: 886-2-2646-2550
Fax: 886-2-2646-4641
E-Mail: easy_lai@wistron.com.tw

Electromagnetic Compatibility & Telecommunications
Accreditation Valid Through: September 30, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

NVLAP LAB CODE 200240-0

CAM Environmental Services

312 South Richey Street
Pasadena, TX 77506-1059
Contact: Mr. Andrew Steranko
Phone: 713-475-9003
Fax: 713-472-2117
E-Mail: andy.steranko@cam-enviro.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: June 30, 2002

NVLAP LAB CODE 200245-0

National Technical Systems

1701 East Plano Parkway, Suite 150
Plano, TX 75074-8127
Contact: Mr. John Ngo
Phone: 972-509-2566
Fax: 972-509-0073

Electromagnetic Compatibility & Telecommunications
Accreditation Valid Through: September 30, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

NVLAP LAB CODE 200246-0

Underwriters Laboratories, Inc.

12 Laboratory Drive
Research Triangle Park, NC 27709
Contact: Mr. Rick A. Titus
Phone: 847-272-8800 x43281
Fax: 847-509-6321
E-Mail: Rick.A.Titus@us.ul.com
URL: http://www.ul.com

Electromagnetic Compatibility & Telecommunications
Accreditation Valid Through: June 30, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS14	CISPR 14-1 (March 30, 2000): Limits and methods of measurement of radio interference characteristics of household electrical appliances, portable tools and similar electrical apparatus - Part 1: Emissions
12/CIS14a	EN 55014-1 (1993) with Ammendments A1 (1997) & A2 (1999)
12/CIS14b	AS/NZS 1044 (1995)
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

Safety Test Methods:

12/T41	ACA TS-001
12/T50	AS/NZS 3260

NVLAP LAB CODE 200248-0

Orfield Laboratories, Inc.

2709 E. 25th Street
Minneapolis, MN 55406
Contact: Mr. Steven J. Orfield
Phone: 612-721-2455
Fax: 612--721-2457
E-Mail: steve@orfieldlabs.com
URL: http://www.orfieldlabs.com

Acoustical Testing Services

Accreditation Valid Through: June 30, 2002

NVLAP Code	*Designation*
08/P03	ASTM C423
08/P06	ASTM E90
08/P10	ANSI S12.31
08/P21	ISO 3745
08/P30	ASTM E1408
08/P31	ASTM E336
08/P32	ASTM E1007
08/P37	ASTM E966

NVLAP LAB CODE 200249-0

Quest MicroAnalytics

2530 Electronic Lane, Suite 712
Dallas, TX 75220-1229
Contact: Ms. Jennifer Jaber
Phone: 214-351-4441
Fax: 214-351-4487
E-Mail: questmic@flash.net

Bulk Asbestos Analysis (PLM)

Accreditation Valid Through: June 30, 2002

NVLAP LAB CODE 200251-0

Storagtek Open Area Test Site

One Storagetek Drive
Louisville, CO 80028-9172
Contact: Mr. Robert B. Reinert
Phone: 303-673-6256
Fax: 303-661-6717
E-Mail: reinerb@louisville.stortek.com

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: September 30, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

NVLAP LAB CODE 200252-0

Underwriters Laboratories

1655 Scott Blvd.
Santa Clara, CA 95050
Contact: Mr. Rick A. Titus
Phone: 847-272-8800 x43281
Fax: 847-509-6321
E-Mail: Rick.A.Titus@us.ul.com
URL: http://www.ul.com

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: December 31, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548
Immunity Test Methods:	
12/I01	IEC 61000-4-2 (1995) and Amendment 1 (1998): Electrostatic Discharge Immunity Test
12/I02	IEC 61000-4-3 (1995) and Amendment 1 (1998): Radiated, Radio-Frequency Electromagnetic Field Immunity Test
12/I03	IEC 61000-4-4 (1995): Electrical Fast Transient/Burst Immunity Test
12/I04	IEC 61000-4-5 (1995): Surge Immunity Test
12/I05	IEC 61000-4-6 (1996): Immunity to Conducted Disturbances, Induced Radio-Frequency Field

12/I06 IEC 61000-4-8 (1993): Power Frequency Magnetic Field Immunity Test
12/I07 IEC 61000-4-11 (1994): Voltage Dips, Short Interruptions and Voltage Variations Immunity Tests

Safety Test Methods:

12/T41 ACA TS-001
12/T50 AS/NZS 3260

Telecommunications Test Methods:

12/CS03 CS-03
12/T01 Terminal Equipment Network Protection Standards, FCC Method - 47 CFR Part 68 - Analog and Digital
12/T01a 68.302 (Par. c,d,e,f) Environmental simulation; 68.304 Leakage current limit.; 68.306 Hazardous voltage limit.; 68.308 Signal power limit.; 68.310 Longitudinal balance limit.; 68.312 On-hook impedance limit.; 68.314 Billing protection
12/T01b 68.316 Hearing Aid Compatibility: technical standards
12/T01c 68.302 Environmental simulation (Par. a,b)
12/T42 ACA TS-002
12/T44 ACA TS-004
12/T45 ACA TS-006
12/T49 ACA TS-016

NVLAP LAB CODE 200253-0

CBS Fasteners, Inc.

1345 N. Brasher Street
Anaheim, CA 92807
Contact: Mr. Bill Sisler
Phone: 714-779-6368
Fax: 714-779-0934
E-Mail: bill@cbsfasteners.com

Fasteners & Metals

Accreditation Valid Through: September 30, 2002

NVLAP Code *Designation*

Dimensional Inspection

Dimensions of fasteners - hexagon and double hexagon (12 point) and spline sockets

FA/411 ANSI/ASME B18.3

Dimensions of fasteners - straightness

FA/423 ANSI/ASME B18.2.1

Dimensions of general purpose fasteners and high-volume machine assembly fasteners

FA/404 ANSI/ASME B18.18.2M

External thread parameters - system 22

FA/382 FED-STD-H28/20

Surface texture

FA/439 ANSI/ASME B46.1

Mechanical and Physical Testing and Inspection

Axial tensile strength of full-size threaded fasteners

FA/271 MIL-STD-1312-8

Double shear of externally threaded fasteners

FA/257 MIL-STD-1312-13

Hydrogen embrittlement (stress durability) of externally threaded fasteners

FA/176 MIL-STD-1312-5

Magnetic permeability

FA/214 ASTM A342 Test Method 3

Measurement of fastener coating thickness - dimensional change method

FA/495 MIL-STD-1312-12

Measurement of fastener coating thickness - microscopical method

FA/163 MIL-STD-1312-12

Microhardness of fasteners

FA/193 MIL-STD-1312-6

Recess strength test in both the installation and removal directions

FA/476 MIL-STD-1312-25

Rockwell hardness of fasteners

FA/201 MIL-STD-1312-6

Rockwell superficial hardness of fasteners

FA/209 MIL-STD-1312-6

Single shear of externally threaded fasteners

FA/256 MIL-STD-1312-20

Vickers hardness - test forces from 9.807 to 1176 N (1 to 120 kgf)

FA/671 MIL-STD-1312-6

Wedge tensile strength of full-size threaded fasteners

FA/295 MIL-STD-1312-8

Metallography

Decarburization and case depth measurement in fasteners

FA/330 SAE J423
FA/483 ASTM A574 Sec. 12

Determination of grain size of fasteners

FA/638 ASTM E112

Macroscopic examination of fasteners by etching

FA/511 ASTM E340
FA/651 ASTM F788/788M

Microscopic examination of fasteners by etching

FA/341 ASTM E1077
FA/345 ASTM F788/788M
FA/351 ASTM E112
FA/512 ASTM E407
FA/552 ASTM E3
FA/679 ASTM A574

Surface discontinuities of externally threaded fasteners

FA/357 ASTM F788/788M

NVLAP LAB CODE 200254-0

Vermont Fasteners Manufacturing

50 Jonergin Drive
P.O. Box 50
Swanton, VT 05488-0050
Contact: Mr. Pierre Gagne
Phone: 802-868-3663
Fax: 802-868-2089
E-Mail: pgagne@vfm.com

Fasteners & Metals

Accreditation Valid Through: September 30, 2002

NVLAP Code *Designation*

Dimensional Inspection

Dimensions of fasteners - straightness

FA/423 ANSI/ASME B18.2.1

Dimensions of special purpose fasteners and fasteners for highly specialized engineered ap

FA/405 ANSI/ASME B18.18.3M
FA/963 ANSI B18.2.1

External thread parameters - system 21

FA/379 ANSI/ASME B1.3M

External thread parameters - system 22

FA/381 ANSI/ASME B1.3M

Internal thread parameters - system 21

FA/391 ANSI/ASME B1.3M

Internal thread parameters - system 22

FA/393 ANSI/ASME B1.3M

Mechanical and Physical Testing and Inspection

Axial tensile strength of full-size threaded fasteners

FA/265 ASTM A370 Sec. A3.2.1.4
FA/266 ASTM F606 Sec. 3.4.1-3.4.3
FA/267 ASTM F606M Sec. 3.4.1-3.4.3
FA/273 SAE J429

Brinell hardness of fasteners

FA/185 ASTM A370 Sec. 16
FA/186 ASTM E10

Cone proof load of internally threaded fasteners (nuts)

FA/219 ASTM F812/F812M
FA/220 ASTM F606 Sec. 4.3
FA/655 ASTM A194/A194M

Hardness preparation

FA/482 ASTM F606

Measurement of fastener coating thickness - eddy-current method

FA/149 ASTM E376

Measurement of fastener coating thickness - magnetic methods

FA/155 ASTM E376

Microhardness of fasteners

FA/654 SAE J121

Proof load of full-size externally threaded fasteners

FA/225 ASTM A370 Sec. A3.2.1.1-A3.2.1.3
FA/226 ASTM F606 Sec. 3.2.1-3.2.3
FA/467 ASTM F606M Sec. 3.2.1-3.2.3

Proof load of internally threaded fasteners (nuts)

FA/235 ASTM A370 Sec. A3.5.1
FA/236 ASTM F606 Sec. 4.2
FA/237 ASTM F606M Sec. 4.2

Rockwell hardness of fasteners

FA/196 ASTM A370 Sec. 18
FA/197 ASTM E18

Rockwell superficial hardness of fasteners

FA/205 ASTM E18
FA/206 ASTM A370 Sec. 18

Rotational capacity of full-size fasteners

FA/243 ASTM A325
FA/245 ASTM A563
FA/965 AASHTO M164

Wedge tensile strength of full-size threaded fasteners

FA/289 ASTM A370
FA/290 ASTM F606 Sec. 3.5
FA/291 ASTM F606M Sec. 3.5
FA/468 SAE J429 Sec. 5.5

Metallography

Decarburization and case depth measurement in fasteners

FA/328 SAE J121
FA/964 ASTM A490

Macroscopic examination of fasteners by etching

FA/336 SAE J123
FA/337 SAE J1061
FA/651 ASTM F788/788M

Microscopic examination of fasteners by etching

FA/344 SAE J121

Surface discontinuities of externally threaded fasteners

FA/357 ASTM F788/788M
FA/361 SAE J123
FA/362 SAE J1061
FA/652 ASTM A490

Surface discontinuities of internally threaded fasteners

FA/363 ASTM F812
FA/365 SAE J122

Nondestructive Inspection

Magnetic particle inspection of fasteners

FA/374 ASTM E709

NVLAP LAB CODE 200255-0

Rockford Bolt & Steel Co.

126 Mill Street
Rockford, IL 61101
Contact: Mr. John Petty
Phone: 815-968-0514
Fax: 815-968-3111
E-Mail: rockfordbolt@voyager.net

Fasteners & Metals

Accreditation Valid Through: December 31, 2002

NVLAP Code *Designation*

Dimensional Inspection

Dimensions of fasteners - straightness

FA/423	ANSI/ASME B18.2.1

External thread parameters - system 21

FA/379	ANSI/ASME B1.3M

External thread parameters - system 22

FA/381	ANSI/ASME B1.3M

Mechanical and Physical Testing and Inspection

Axial tensile strength of full-size threaded fasteners

FA/266	ASTM F606 Sec. 3.4.1-3.4.3

Hardness preparation

FA/482	ASTM F606

Rockwell hardness of fasteners

FA/202	SAE J417

Tension testing of machined specimens from externally threaded fasteners

FA/278	ASTM A370
FA/279	ASTM F606 Sec. 3.6

Wedge tensile strength of full-size threaded fasteners

FA/290	ASTM F606 Sec. 3.5

Yield strength of full-size externally threaded fasteners

FA/298	ASTM F606 Sec. 3.2.4
FA/299	ASTM A370 Sec. A3.2.1.3(a)

NVLAP LAB CODE 200256-0

Sundram Fasteners Limited Chemical Testing Laboratory

1-10-63/1/3, Veer Chambers
Andhra Pradesh 500 016
INDIA
Contact: Mr. Sampathkumar Moorthy
Phone: 91-44-8521870
Fax: 91-44-853-5435

Fasteners & Metals

Accreditation Valid Through: September 30, 2002

NVLAP Code	*Designation*

Chemical Analysis

Optical emission spectrochemical analysis

FA/457	ASTM E415

NVLAP LAB CODE 200258-0

W.R. Grace & Co.

62 Whittemore Avenue
Cambridge, MA 02140
Contact: Mr. James J. Malone
Phone: 617-498-4518
Fax: 617-498-4360
E-Mail: james.j.malone@grace.com

Construction Materials Testing

Accreditation Valid Through: December 31, 2002

NVLAP Code	*Designation*

Aggregates

02/A03	ASTM C29
02/A04	ASTM C40
02/A07	ASTM C117
02/A09	ASTM C127
02/A10	ASTM C128
02/A12	ASTM C136
02/A15	ASTM D75
02/A44	ASTM C566

Cement

02/A17	ASTM C109
02/A21	ASTM C157
02/A23	ASTM C185
02/A26	ASTM C191
02/A27	ASTM C204
02/A30	ASTM C266
02/A31	ASTM C305
02/A32	ASTM C430
02/A33	ASTM C451

Concrete

02/A01	ASTM C39
02/A02	ASTM C617
02/A40	ASTM C78
02/A41	ASTM C192
02/A43	ASTM C1064
02/A45	ASTM C42
02/A47	ASTM C457
02/G01	ASTM C31/C172/C143/C138/C231
02/G02	ASTM C173

Standard Practices

02/A39	ASTM C1077

NVLAP LAB CODE 200259-0

PFU TECHNOCONSUL EMC Center

98-2 Nu, Unoke, Unoke-Machi, Kahoku-Gun
Ishikawa-Ken 929-1192
JAPAN
Contact: Mr. Youichi Masui
Phone: 81-76-283-8600
Fax: 81-76-283-8601
E-Mail: you1-masui@pfu.fujitsu.com
URL: http://www.pfu.fujitsu.com/ptc/

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: December 31, 2002

NVLAP Code	*Designation*

Emissions Test Methods:

12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

NVLAP LAB CODE 200261-0

Prottsa, S.A. de C.V.
Oriente 233 No. 91 Agricola Oriental
C.P. 08500
Mexico City
MEXICO
Contact: Mr. Gilberto Laguna
Phone: 5-558-85-77
Fax: 5-558-25-23
E-Mail: prottsa@dfl.telmex.net.mx

Fasteners & Metals

Accreditation Valid Through: September 30, 2002

NVLAP Code	*Designation*
Dimensional Inspection	
Dimensions of general purpose fasteners and high-volume machine assembly fasteners	
FA/403	ANSI/ASME B18.18.1M
FA/981	ANSI/ASME B1.3M
Mechanical and Physical Testing and Inspection	
Axial tensile strength of full-size threaded fasteners	
FA/266	ASTM F606 Sec. 3.4.1-3.4.3
Bend test of full size eyebolts	
FA/982	AAR 4-2-15 Section 8 (1969)
Cone proof load of internally threaded fasteners (nuts)	
FA/220	ASTM F606 Sec. 4.3
Hardness preparation	
FA/482	ASTM F606
Measurement of fastener coating thickness - magnetic methods	
FA/153	ASTM B499
Proof load of full-size externally threaded fasteners	
FA/226	ASTM F606 Sec. 3.2.1-3.2.3
FA/983	AAR 4-2-15 Section 9 (1969)
Proof load of internally threaded fasteners (nuts)	
FA/235	ASTM A370 Sec. A3.5.1
FA/236	ASTM F606 Sec. 4.2
Rockwell hardness of fasteners	
FA/196	ASTM A370 Sec. 18
Tension testing of machined specimens from externally threaded fasteners	
FA/279	ASTM F606 Sec. 3.6
Torque-tension of full-size threaded fasteners	
FA/984	AAR 4-2-15 Section 13b (1969)
FA/985	ASTM A183 Section 8.2.2
FA/986	Prottsa W.I. I.030 rev. b
Wedge tensile strength of full-size threaded fasteners	
FA/290	ASTM F606 Sec. 3.5
Yield strength of full-size externally threaded fasteners	
FA/298	ASTM F606 Sec. 3.2.4

NVLAP LAB CODE 200263-0

Murata Mfg. Co., Ltd. Yokohama Technical Center EMM Office
Yokohama Technical Center
1-18 Hakusan 1-Chome, Midori-ku Yokohama
Kanagawa 226-006
JAPAN
Contact: Mr. Yuzo Katayama
Phone: 045-939-7100
Fax: 045-939-7156
E-Mail: katayama@murata.co.jp

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: December 31, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

NVLAP LAB CODE 200265-0

R & D Services, Inc.
2594 West Broad Street
P.O. Box 2400
Cookeville, TN 38502-2400
Contact: Mr. Ronald S. Graves
Phone: 931-372-8871
Fax: 931-525-3896
E-Mail: rdserv2@charter.net
URL: http://rdservices.com

Thermal Insulation Materials

Accreditation Valid Through: September 30, 2002

NVLAP Code	*Designation*
Corrosiveness	
01/C01	ASTM C739 (Sec. 9)
01/C02	16 CFR-Part 1209.5
Flammability	
01/F07	16 CFR-Part 1209.6
01/F08	16 CFR-Part 1209.7
01/F09	ASTM C739 (Sec. 10) by ASTM E970
01/F10	ASTM C739 (Sec. 14)
Mass, Density, and Dimensional Stability	
01/D02	ASTM C167

01/D24	ASTM C739 (Sec. 12)
01/D26	16 CFR-Part 1209.4
01/D27	ASTM C739 (Sec. 8)

Related Material Properties

01/V05	ASTM C739 (Sec. 11)

Thermal Resistance

01/T06	ASTM C518
01/T10	ASTM C687

NVLAP LAB CODE 200271-0

Aerospace NYLOK - a subsidiary of the NYLOK Fastener Corporation

11 Thomas Road South
Hawthorne, NJ 07507-0651
Contact: Mr. Chet Radwan
Phone: 973-427-8555
Fax: 973-427-4723
E-Mail: chester@NYLOKFASTENER.COM

Fasteners & Metals

Accreditation Valid Through: March 31, 2002

NVLAP
Code *Designation*

Dimensional Inspection

Dimensions of special purpose fasteners and fasteners for highly specialized engineered ap

FA/805	MIL-DTL-18240
FA/806	MIL-F-18240

Mechanical and Physical Testing and Inspection

Prevailing torque

FA/217	IFI-100/107
FA/794	MIL-DTL-18240
FA/795	IFI 124
FA/796	MIL-F-18240
FA/797	IFI 125
FA/798	IFI 524
FA/833	IFI 525

Reusability test of self-locking internally threaded fasteners

FA/543	IFI-100/107
FA/792	MIL-F-18240 (externally and internally threaded)
FA/793	MIL-DTL-18240 (externally and internally threaded)

NVLAP LAB CODE 200272-0

NYLOK Fastener Corporation

313 North Euclid Way
Anaheim, CA 92801-6738
Contact: Mr. William Steinman
Phone: 714-635-3993
Fax: 714-635-9553
E-Mail: sales@nylokfastener.com
URL: http://www.nylok.com

Fasteners & Metals

Accreditation Valid Through: March 31, 2002

NVLAP
Code *Designation*

Dimensional Inspection

Dimensions of special purpose fasteners and fasteners for highly specialized engineered ap

FA/802	NYLOK TP-NW-5.0
FA/805	MIL-DTL-18240
FA/806	MIL-F-18240

External thread parameters - system 21

FA/379	ANSI/ASME B1.3M
FA/380	FED-STD-H28/20

External thread parameters - system 22

FA/381	ANSI/ASME B1.3M
FA/382	FED-STD-H28/20
FA/383	MIL-S-7742
FA/384	MIL-S-8879
FA/534	SAE AS 8879
FA/803	ASME B1.15

Internal thread parameters - system 21

FA/391	ANSI/ASME B1.3M
FA/392	FED-STD-H28/20

Internal thread parameters - system 22

FA/393	ANSI/ASME B1.3M
FA/394	FED-STD-H28/20
FA/395	MIL-S-7742
FA/396	MIL-S-8879
FA/537	SAE AS 8879
FA/804	ASME B1.15

Mechanical and Physical Testing and Inspection

Axial tensile strength of full-size threaded fasteners

FA/266	ASTM F606 Sec. 3.4.1-3.4.3
FA/799	NASM 1312-8

Hydrogen embrittlement (stress durability) of externally threaded fasteners

FA/801	QQ-P-416
FA/875	NASM 1312-5

Hydrogen embrittlement (stress durability) of internally threaded fasteners

FA/800	QQ-P-416

Prevailing torque

FA/217	IFI-100/107
FA/794	MIL-DTL-18240
FA/795	IFI 124
FA/796	MIL-F-18240
FA/797	IFI 125
FA/798	IFI 524

Reusability test of self-locking internally threaded fasteners

FA/792	MIL-F-18240
FA/793	MIL-DTL-18240

Rockwell hardness of fasteners

FA/201	MIL-STD-1312-6

NVLAP LAB CODE 200274-0

Kyowa Kogyosyo Co., Ltd. Test Laboratory

1-57, Kogyo-Danchi
Komatsu City, Ishikawa
JAPAN
Contact: Mr. Mataichi Fukuda
Phone: 81-761-21-0531
Fax: 81-761-21-0533

Fasteners & Metals

Accreditation Valid Through: June 30, 2002

Dimensional Inspection

Dimensions of ISO grade A and B fasteners

NVLAP Code	*Designation*
FA/589	JIS B1071

Dimensions of fasteners - bearing surface squareness

FA/649	JIS B1071

Dimensions of fasteners - straightness

FA/648	JIS B1071

External thread parameters - system 21

FA/647	JIS B1071

Surface texture

FA/650	JIS B1071

Mechanical and Physical Testing and Inspection

Axial tensile strength of full-size threaded fasteners

FA/266	ASTM F606 Sec. 3.4.1-3.4.3
FA/574	JIS B1051 Sec. 4.2.2

Charpy impact (u-notch) testing

FA/845	JIS Z2242

Hardness preparation

FA/482	ASTM F606

Measurement of fastener coating thickness - magnetic methods

FA/596	JIS H8501

Microhardness of fasteners

FA/620	JIS Z2244
FA/642	JIS B1051 Sec. 4.2.5

Proof load of full-size externally threaded fasteners

FA/573	JIS B1051 Sec. 4.2.4

Rockwell hardness of fasteners

FA/197	ASTM E18
FA/572	JIS Z2245
FA/707	JIS B1051 Sec. 4.2.5

Tension testing of machined specimens from externally threaded fasteners

FA/581	JIS B1051 Sec. 4.2.1
FA/582	JIS Z2241

Wedge tensile strength of full-size threaded fasteners

FA/290	ASTM F606 Sec. 3.5
FA/575	JIS B1051 Sec. 4.2.3

Metallography

Decarburization and case depth measurement in fasteners

FA/645	JIS B1051

Surface discontinuities of externally threaded fasteners

FA/603	JIS B1043

NVLAP LAB CODE 200278-0

Casey Products, Inc.

1955 University Lane
Lisle, IL 60532-4149
Contact: Mr. Michael B. Connelly, CQE
Phone: 630-960-3360
Fax: 630-960-3419
E-Mail: mconnell@caseyproducts.com

Fasteners & Metals

Accreditation Valid Through: March 31, 2002

Dimensional Inspection

Dimensions of ISO grade A and B fasteners

NVLAP Code	*Designation*
FA/407	ISO 3269
FA/408	ISO 4759-1

Dimensions of ISO grade C fasteners

FA/409	ISO 3269
FA/410	ISO 4759-1

Dimensions of fasteners - hexagon and double hexagon (12 point) and spline sockets

FA/411	ANSI/ASME B18.3
FA/412	ANSI/ASME B18.3.1M
FA/413	ANSI/ASME B18.3.3M
FA/414	ANSI/ASME B18.3.4M
FA/415	ANSI/ASME B18.3.5M
FA/416	ANSI/ASME B18.3.6M

Dimensions of fasteners - straightness

FA/423	ANSI/ASME B18.2.1
FA/424	ANSI/ASME B18.2.3.1M
FA/425	ANSI/ASME B18.2.3.2M
FA/426	ANSI/ASME B18.2.3.3M
FA/427	ANSI/ASME B18.2.3.4M
FA/428	ANSI/ASME B18.2.3.5M
FA/429	ANSI/ASME B18.2.3.6M
FA/433	ANSI/ASME B18.5.2.2M

Dimensions of general purpose fasteners and high-volume machine assembly fasteners

FA/403	ANSI/ASME B18.18.1M
FA/404	ANSI/ASME B18.18.2M
FA/486	MIL-STD-120 (W/ Notice dtd 9 SEP 63)
FA/870	ANSI/ASME B1.16M
FA/871	ANSI/ASME B1.2

Dimensions of special purpose fasteners and fasteners for highly specialized engineered ap

FA/405	ANSI/ASME B18.18.3M
FA/406	ANSI/ASME B18.18.4M

External thread parameters - ISO

FA/390	ISO 1502

External thread parameters - SAE fastener with MJ metric screw threads

FA/922	ANSI/ASME B1.3M

External thread parameters - system 21

FA/379	ANSI/ASME B1.3M

External thread parameters - system 22

FA/381	ANSI/ASME B1.3M

Internal thread parameters - ISO

FA/402	ISO 1502

Internal thread parameters - system 21

FA/391	ANSI/ASME B1.3M

Internal thread parameters - system 22

FA/393	ANSI/ASME B1.3M

Mechanical and Physical Testing and Inspection

Axial tensile strength of full-size threaded fasteners

FA/265	ASTM A370 Sec. A3.2.1.4
FA/266	ASTM F606 Sec. 3.4.1-3.4.3
FA/267	ASTM F606M Sec. 3.4.1-3.4.3
FA/270	ISO 898-1 Sec. 8.2
FA/273	SAE J429
FA/274	SAE J1216

Hardness preparation

FA/464	ASTM F606M
FA/482	ASTM F606

Measurement of fastener coating thickness - eddy-current method

FA/149	ASTM E376

Measurement of fastener coating thickness - magnetic methods

FA/155	ASTM E376

Microhardness of fasteners

FA/189	ASTM E384

Prevailing torque

FA/217	IFI-100/107

Proof load of full-size externally threaded fasteners

FA/225	ASTM A370 Sec. A3.2.1.1-A3.2.1.3
FA/226	ASTM F606 Sec. 3.2.1-3.2.3
FA/228	ISO 898-1 Sec. 8.4
FA/229	SAE J429 Sec. 5.3
FA/467	ASTM F606M Sec. 3.2.1-3.2.3
FA/577	SAE J1216 Sec. 3.3

Proof load of internally threaded fasteners (nuts)

FA/235	ASTM A370 Sec. A3.5.1
FA/236	ASTM F606 Sec. 4.2
FA/237	ASTM F606M Sec. 4.2
FA/239	ISO 898-2 Sec. 8.1
FA/241	SAE J995 Sec. 5.1

Rockwell hardness of fasteners

FA/196	ASTM A370 Sec. 18
FA/197	ASTM E18

Rockwell superficial hardness of fasteners

FA/205	ASTM E18
FA/206	ASTM A370 Sec. 18

Test for embrittlement of metallic coated externally threaded fasteners

FA/179	ASTM F606 Sec. 7
FA/180	ASTM F606M Sec. 7

Total extension at fracture of externally threaded fasteners

FA/285	ASTM F606 Sec. 3.7
FA/286	ASTM F606M Sec. 3.7

Wedge tensile strength of full-size threaded fasteners

FA/289	ASTM A370
FA/290	ASTM F606 Sec. 3.5
FA/291	ASTM F606M Sec. 3.5
FA/294	ISO 898-1 Sec. 8.5
FA/468	SAE J429 Sec. 5.5
FA/469	SAE J1216 Sec. 3.6

Yield strength of full-size externally threaded fasteners

FA/298	ASTM F606 Sec. 3.2.4
FA/300	ASTM F606M Sec. 3.2.4

Metallography

Decarburization and case depth measurement in fasteners

FA/323	ASTM E1077
FA/324	ISO 898-1
FA/325	ISO 898-5
FA/328	SAE J121
FA/329	SAE J419
FA/330	SAE J423
FA/483	ASTM A574 Sec. 12
FA/519	ASTM A574M
FA/520	ASTM F835
FA/758	SAE J121M
FA/866	ASTM F835M
FA/867	ASTM F912
FA/868	ASTM F912M

Determination of grain size of fasteners

FA/638	ASTM E112

Macroscopic examination of fasteners by etching

FA/484	ASTM E381
FA/511	ASTM E340

Microscopic examination of fasteners by etching

FA/512	ASTM E407

Surface discontinuities of externally threaded fasteners

FA/357	ASTM F788/788M
FA/359	ISO 6157-1
FA/360	ISO 6157-3
FA/361	SAE J123
FA/362	SAE J1061
FA/859	ASTM A574
FA/860	ASTM A574M
FA/861	ASTM F835
FA/862	ASTM F835M
FA/863	ASTM F912
FA/864	ASTM F912M

Surface discontinuities of internally threaded fasteners

FA/365	SAE J122
FA/727	ISO 6157-2
FA/865	ASTM F812/F812M

NVLAP LAB CODE 200281-0

Fujitsu Evaluation Engineering Laboratory

140 Miyamoto
Numazu, Shizuoka-Pref. 410-0396
JAPAN
Contact: Mr. Yoshiyuki Okita
Phone: 81-559-24-7209
Fax: 81-559-24-6183
E-Mail: okita@psl.fujitsu.co.jp

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: September 30, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

NVLAP LAB CODE 200282-0

Electronics Test Centre

302 Legget Drive, Unit 100
Kanata, Ont. K2K 1Y5
CANADA
Contact: Mr. Dave Scribailo
Phone: 613-599-6800
Fax: 613-599-7614
E-Mail: daves@etc-mpbt.com

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: September 30, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548
MIL-STD-462 : Conducted Emissions:	
12/A01	MIL-STD-462 Method CE01
12/A06	MIL-STD-462 Method CE03
12/A13	MIL-STD-462 Version D Method CE101
12/A14	MIL-STD-462 Version D Method CE102
12/A16	MIL-STD-461 Version E Method CE101
12/A17	MIL-STD-461 Version E Method CE102
MIL-STD-462 : Conducted Susceptibility:	
12/B01	MIL-STD-462 Method CS01
12/B02	MIL-STD-462 Method CS02
12/B05	MIL-STD-462 Method CS06
12/B12	MIL-STD-462 Version D Method CS101
12/B17	MIL-STD-462 Version D Method CS114
12/B19	MIL-STD-462 Version D Method CS116
12/B20	MIL-STD-461 Version E Method CS101
12/B25	MIL-STD-461 Version E Method CS114
12/B27	MIL-STD-461 Version E Method CS116
MIL-STD-462 : Radiated Emissions:	
12/D04	MIL-STD-462 Version D Method RE101
12/D05	MIL-STD-462 Version D Method RE102
12/D07	MIL-STD-461 Version E Method RE101
12/D08	MIL-STD-461 Version E Method RE102
MIL-STD-462 : Radiated Susceptibility:	
12/E09	MIL-STD-462 Version D Method RS103
12/E12	MIL-STD-461 Version E Method RS103
Safety Test Methods:	
12/T41	ACA TS-001
12/T50	AS/NZS 3260

NVLAP LAB CODE 200287-0

Small IAC Test Laboratory

107 Park St. N
Peterborough, ON K9J-7B5
CANADA
Contact: Mr. Dhawal Shah
Phone: 705-748-7155
Fax: 705-748-7677
E-Mail: dhawal.shah@indsys.ge.com

Efficiency of Electric Motors

Accreditation Valid Through: September 30, 2002

NVLAP Code	*Designation*
24/M01	IEEE 112, Method B

NVLAP LAB CODE 200288-0

Fong Prean Industrial Co., Ltd.

No. 6 Kung-Wei St. Tzu Hsin T'Sun
Tzu Kuan Hsiang
Kaohsiung Hsien
TAIWAN
Contact: Mr. Chang San Tien
Phone: 886-7-6170526
Fax: 886-7-6107610
E-Mail: cst@ms.fongprean.com.tw

Fasteners & Metals

Accreditation Valid Through: March 31, 2002

NVLAP Code	*Designation*
Dimensional Inspection	
Dimensions of general purpose fasteners and high-volume machine assembly fasteners	
FA/854	ANSI/ASME B18.6.4
FA/855	ISO 1479
Mechanical and Physical Testing and Inspection	
Drill-drive test	
FA/247	SAE J78
FA/851	DIN 7504
Hardness preparation	
FA/464	ASTM F606M
FA/482	ASTM F606
Measurement of fastener coating thickness - X-ray methods	
FA/760	ASTM A754/A754M
Microhardness of fasteners	
FA/189	ASTM E384
Rockwell hardness of fasteners	
FA/197	ASTM E18
Rockwell superficial hardness of fasteners	
FA/205	ASTM E18
Salt spray testing of fasteners	
FA/166	ASTM B117
Torsional strength test of thread rolling and self-drilling tappings screws	
FA/751	SAE J933
FA/852	ISO 2702
FA/853	DIN 7504
Metallography	
Decarburization and case depth measurement in fasteners	
FA/330	SAE J423
FA/562	ASTM G79
Surface discontinuities of externally threaded fasteners	
FA/357	ASTM F788/788M
FA/361	SAE J123

NVLAP LAB CODE 200291-0

NGC Testing Services, National Gypsum Research Center

1650 Military Road
Buffalo, NY 14217-1198
Contact: Mr. Robert J. Menchetti
Phone: 716-873-9750
Fax: 716-873-9753
E-Mail: email@ngctestingservices.com
URL: http://www.ngctestingservices.com

Acoustical Testing Services

Accreditation Valid Through: December 31, 2002

NVLAP Code	*Designation*
08/P03	ASTM C423
08/P06	ASTM E90
08/P07	ASTM E492
08/P30	ASTM E1408
08/P34	ASTM E1414
08/P44	ISO 354
08/P45	ISO 140, Part 3
08/P50	ISO 140, Part 9
08/P54	SAE J1400
08/P58	ASTM E1222

NVLAP LAB CODE 200292-0

BCAG Fastener Quality Test Lab Everett Site

P.O. Box 3707, MS 04-02
Seattle, WA 98124-2207
Contact: Mr. Eugene J. Brown
Phone: 425-342-3888
Fax: 425-266-4673
E-Mail: eugene.j.brown@boeing.com

Fasteners & Metals

Accreditation Valid Through: December 31, 2002

NVLAP Code	*Designation*
Chemical Analysis	
Combustion analysis for carbon, sulfur, oxygen, nitrogen, and hydrogen	
FA/472	ASTM E1447
Optical emission spectrochemical analysis	
FA/456	ASTM E327
FA/457	ASTM E415
FA/458	ASTM E607
FA/459	ASTM E1086
FA/460	ASTM E1251
Spot test analysis	
FB/1076	D1-8018-2
Dimensional Inspection	
Dimensions of fasteners - bearing surface squareness	
FA/911	BPS-N-70
Dimensions of fasteners - gaging for slotted nuts	
FA/417	ANSI/ASME B18.2.2
FA/418	ANSI/ASME B18.2.4.3M

Dimensions of fasteners - straightness

FA/423 ANSI/ASME B18.2.1

Dimensions of special purpose fasteners and fasteners for highly specialized engineered ap

FA/405 ANSI/ASME B18.18.3M
FA/406 ANSI/ASME B18.18.4M
FB/1060 BPS-F-69
FB/1061 BPS-F-76
FB/1062 BPS-F-67
FB/1063 D-11805
FB/1064 BPS-N-70
FB/1065 BPS-F-68

External thread parameters - system 22

FA/381 ANSI/ASME B1.3M
FA/382 FED-STD-H28/20
FA/383 MIL-S-7742
FA/384 MIL-S-8879

Internal thread parameters - system 21

FA/391 ANSI/ASME B1.3M
FA/392 FED-STD-H28/20
FA/529 MIL-S-7742

Surface texture

FA/439 ANSI/ASME B46.1

Mechanical and Physical Testing and Inspection

Adhesion of metallic coatings on fasteners

FA/532 BMS 10-85M Sec. 8.2

Axial tensile strength of full-size threaded fasteners

FA/271 MIL-STD-1312-8
FA/799 NASM 1312-8
FB/1067 D2-2860

Double shear of externally threaded fasteners

FA/257 MIL-STD-1312-13
FA/880 NASM 1312-13
FB/1066 D2-2860
FB/1070 NAS 498

Fatigue of full-size threaded fasteners

FA/183 MIL-STD-1312-11
FA/184 NAS 1069
FA/876 NASM 1312-11
FB/1038 D2-2860

Hardness preparation

FB/1071 NAS 498

Hydrogen embrittlement (stress durability) of externally threaded fasteners

FA/176 MIL-STD-1312-5
FA/801 QQ-P-416
FA/875 NASM 1312-5

Hydrogen embrittlement (stress durability) of internally threaded fasteners

FA/178 MIL-STD-1312-14
FA/800 QQ-P-416
FB/1033 NASM 1312-14

Intergranular corrosion susceptibility of austentic stainles steel fasteners - oxalic acid

FA/174 ASTM A262 Sec. 3-7, Practice A

Measurement of fastener coating thickness - dimensional change method

FA/495 MIL-STD-1312-12
FA/874 NASM 1312-12

Measurement of fastener coating thickness - microscopical method

FA/160 ASTM B487
FA/163 MIL-STD-1312-12
FA/873 NASM 1312-12

Microhardness of fasteners

FA/189 ASTM E384

Prevailing torque

FA/630 MIL-N-25027
FA/899 BPS-N-70
FA/902 NAS 3350

Proof load of full-size externally threaded fasteners

FA/691 MIL-STD-1312-8
FB/1037 NASM 1312-8
FB/1041 D2-2860

Proof load of internally threaded fasteners (nuts)

FB/1039 MIL-STD-1312-8
FB/1040 NASM 1312-8
FB/1042 D2-2860

Push out test of floating plate nuts, gang channel nuts, and anchor nuts

FA/116 MIL-N-25027
FA/891 BPS-N-70

Recess strength test in both the installation and removal directions

FA/886 NASM 1312-25

Reusability test of self-locking internally threaded fasteners

FA/124 MIL-N-25027
FA/125 NAS 3350
FA/774 BPS-N-70

Rockwell hardness of fasteners

FA/196 ASTM A370 Sec. 18
FA/197 ASTM E18
FA/201 MIL-STD-1312-6
FA/878 NASM 1312-6
FB/1072 BAC 5650

Rockwell superficial hardness of fasteners

FA/205 ASTM E18
FA/206 ASTM A370 Sec. 18
FA/209 MIL-STD-1312-6
FB/1035 NASM 1312-6

Salt spray testing of fasteners

FA/168 MIL-STD-1312-1
FB/1032 NASM 1312-1

Tension testing of machined specimens from externally threaded fasteners

FA/475 ASTM E8
FB/1043 ASTM B557

Test for embrittlement of metallic coated externally threaded fasteners

FA/525 MIL-STD-1312-5
FB/1034 NASM 1312-5

Torque-out test

FA/133 MIL-N-25027
FB/1031 BPS-N-70

Vickers hardness - test forces from 9.807 to 1176 N (1 to 120 kgf)

FA/671	MIL-STD-1312-6
FB/1036	NASM 1312-6

Wedge tensile strength of full-size threaded fasteners

FA/295	MIL-STD-1312-8
FB/1044	NASM 1312-8
FB/1069	D2-2860

Wrench torque test of externally wrenched nuts of spline and hexagon and double hexagon (1

FA/141	MIL-N-25027
FA/142	NAS 3350
FA/893	BPS-N-70

Yield strength of full-size externally threaded fasteners

FA/303	MIL-STD-1312-8
FB/1045	NASM 1312-8
FB/1068	D2-2860

Metallography

Decarburization and case depth measurement in fasteners

FA/323	ASTM E1077
FA/904	BPS-N-70
FB/1046	BPS-F-76
FB/1047	BPS-F-67
FB/1048	NAS 498
FB/1073	BPS-F-46

Determination of grain size of fasteners

FA/331	ASTM E112

Macroscopic examination of fasteners by etching

FA/511	ASTM E340

Microscopic examination of fasteners by etching

FA/512	ASTM E407

Surface discontinuities of externally threaded fasteners

FA/357	ASTM F788/788M
FA/859	ASTM A574
FB/1049	NAS 4002
FB/1050	NAS 4003
FB/1051	NAS 4004
FB/1052	BPS-F-67
FB/1053	BPS-F-69
FB/1054	BPS-F-68
FB/1055	BPS-F-76
FB/1056	NAS 498
FB/1057	FF-S-86

Surface discontinuities of internally threaded fasteners

FA/907	BPS-N-70

Nondestructive Inspection

Liquid penetrant inspection of fasteners

FA/527	ASTM E1417
FB/1059	MIL-I-25135
FB/1074	BAC 5423

Magnetic particle inspection of fasteners

FA/485	ASTM E1444
FB/1075	BAC 5424

NVLAP LAB CODE 200293-0

EMSL Analytical, Inc.

10768 Baltimore Avenue
Beltsville, MD 20705
Contact: Mr. Joseph Centifonti
Phone: 301-937-5700
Fax: 301-937-5701
E-Mail: jcentifonti@emsl.com
URL: http://www.emsl.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: December 31, 2002

Airborne Asbestos Analysis (TEM)
Accreditation Valid Through: December 31, 2002

NVLAP LAB CODE 200294-0

Micron Environmental Labs

292 E. Foothill Blvd., Suite B
Arcadia, CA 91006
Contact: Mr. Daniel Gamez
Phone: 626-357-8627
Fax: 626-256-9017
E-Mail: micronlabs@integrityonline7.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: December 31, 2002

NVLAP LAB CODE 200296-0

Okawa Laboratory

6357-1 Oba, Omiya-cho
Naka-gun, Ibaraki-ken 319-21
JAPAN
Contact: Mr. Katsuyoshi Okawa
Phone: 81-2955-3-0111
Fax: 81-2955-3-5290

Fasteners & Metals
Accreditation Valid Through: June 30, 2002

NVLAP Code	*Designation*

Dimensional Inspection

Dimensions of general purpose fasteners and high-volume machine assembly fasteners

FA/607	JIS B1071

Mechanical and Physical Testing and Inspection

Axial tensile strength of full-size threaded fasteners

FA/574	JIS B1051 Sec. 4.2.2

Measurement of fastener coating thickness - magnetic methods

FA/596	JIS H8501

Proof load of full-size externally threaded fasteners

FA/573	JIS B1051 Sec. 4.2.4

Rockwell hardness of fasteners

FA/572	JIS Z2245
FA/616	JIS B1051 Sec. 4.3

Salt spray testing of fasteners

FA/569	JIS Z2371

Vickers hardness - test forces from 9.807 to 1176 N (1 to 120 kgf)

FA/571	JIS Z2244
FA/643	JIS B1051 Sec. 4.2.5

Metallography

Decarburization and case depth measurement in fasteners

FA/645	JIS B1051

Surface discontinuities of externally threaded fasteners

FA/646	JIS B1041

NVLAP LAB CODE 200297-0

Intertek Testing Services NA Inc.

27611 La Paz Road, Suite C
Laguna Niguel, CA 92677
Contact: Mr. Rich Adams
Phone: 949-448-4100
Fax: 949-448-4111
E-Mail: rich@itsqs.com
URL: http://www.etlsemko.com

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: June 30, 2002

Emissions Test Methods:

NVLAP Code	*Designation*
12/CIS14	CISPR 14-1 (March 30, 2000): Limits and methods of measurement of radio interference characteristics of household electrical appliances, portable tools and similar electrical apparatus - Part 1: Emissions
12/CIS14a	EN 55014-1 (1993) with Ammendments A1 (1997) & A2 (1999)
12/CIS14b	AS/NZS 1044 (1995)
12/CIS14c	CNS 13783-1
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

Immunity Test Methods:

12/I01	IEC 61000-4-2 (1995) and Amendment 1 (1998): Electrostatic Discharge Immunity Test
12/I02	IEC 61000-4-3 (1995) and Amendment 1 (1998): Radiated, Radio-Frequency Electromagnetic Field Immunity Test
12/I03	IEC 61000-4-4 (1995): Electrical Fast Transient/Burst Immunity Test
12/I04	IEC 61000-4-5 (1995): Surge Immunity Test
12/I05	IEC 61000-4-6 (1996): Immunity to Conducted Disturbances, Induced Radio-Frequency Fields
12/I06	IEC 61000-4-8 (1993): Power Frequency Magnetic Field Immunity Test
12/I07	IEC 61000-4-11 (1994): Voltage Dips, Short Interruptions and Voltage Variations Immunity Tests

MIL-STD-462 : Conducted Emissions:

12/A14	MIL-STD-462 Version D Method CE102
12/A17	MIL-STD-461 Version E Method CE102

Safety Test Methods:

12/T41	ACA TS-001
12/T50	AS/NZS 3260

NVLAP LAB CODE 200300-0

Akzo Nobel K.K. Kawasaki Technical Center

5-23-13 Minamikase, Saiwai-ku
Kawasaki 211-0955
JAPAN
Contact: Mr. Shuichi Kobayashi
Phone: 81-479-40-1097
Fax: 81-479-46-1788
E-Mail: shuichi.kobayashi@nifty.ne.jp
URL: http://www.akzoemc.co.jp

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: June 30, 2002

MIL-STD-462 : Conducted Emissions:

NVLAP Code	*Designation*
12/A01	MIL-STD-462 Method CE01
12/A04	MIL-STD-462 Method CE02
12/A06	MIL-STD-462 Method CE03
12/A08	MIL-STD-462 Method CE04
12/A13	MIL-STD-462 Version D Method CE101
12/A14	MIL-STD-462 Version D Method CE102
12/A16	MIL-STD-461 Version E Method CE101
12/A17	MIL-STD-461 Version E Method CE102

MIL-STD-462 : Conducted Susceptibility:

12/B01	MIL-STD-462 Method CS01
12/B02	MIL-STD-462 Method CS02
12/B05	MIL-STD-462 Method CS06
12/B08	MIL-STD-462 Method CS10
12/B09	MIL-STD-462 Method CS11
12/B12	MIL-STD-462 Version D Method CS101
12/B17	MIL-STD-462 Version D Method CS114
12/B18	MIL-STD-462 Version D Method CS115
12/B19	MIL-STD-462 Version D Method CS116
12/B20	MIL-STD-461 Version E Method CS101
12/B25	MIL-STD-461 Version E Method CS114

12/B26	MIL-STD-461 Version E Method CS115
12/B27	MIL-STD-461 Version E Method CS116

MIL-STD-462 : Radiated Emissions:

12/D01	MIL-STD-462 Method RE01
12/D02	MIL-STD-462 Method RE02
12/D04	MIL-STD-462 Version D Method RE101
12/D05	MIL-STD-462 Version D Method RE102
12/D07	MIL-STD-461 Version E Method RE101
12/D08	MIL-STD-461 Version E Method RE102

MIL-STD-462 : Radiated Susceptibility:

12/E01	MIL-STD-462 Method RS01
12/E02	MIL-STD-462 Method RS02
12/E03	MIL-STD-462 Method RS03 (Consult laboratory for field strengths available)
12/E08	MIL-STD-462 Version D Method RS101
12/E09	MIL-STD-462 Version D Method RS103
12/E11	MIL-STD-461 Version E Method RS101
12/E12	MIL-STD-461 Version E Method RS103

NVLAP LAB CODE 200303-0

A.E.S.L. Environmental Laboratory

800 North Mary Street
Tempe, AZ 85281-1945
Contact: Mr. Jerry Denton
Phone: 480-966-3714
Fax: 480-394-0188

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: March 31, 2002

NVLAP LAB CODE 200304-0

Environmental and EMC Test Centre

Airport Works
Rochester
Kent ME1 2XX
UNITED KINGDOM
Contact: Mr. Frank Ewen
Phone: 01-634-816794
Fax: 01-634-816647
E-Mail: frank.ewen@baesystems.com

Electromagnetic Compatibility & Telecommunications
Accreditation Valid Through: March 31, 2002

NVLAP Code	*Designation*

MIL-STD-462 : Conducted Emissions:

12/A06	MIL-STD-462 Method CE03
12/A12	MIL-STD-462 Method CE07

MIL-STD-462 : Conducted Susceptibility:

12/B01	MIL-STD-462 Method CS01
12/B02	MIL-STD-462 Method CS02
12/B05	MIL-STD-462 Method CS06

MIL-STD-462 : Radiated Emissions:

12/D02	MIL-STD-462 Method RE02

MIL-STD-462 : Radiated Susceptibility:

12/E02	MIL-STD-462 Method RS02
12/E03	MIL-STD-462 Method RS03 (Consult laboratory for field strengths available)
12/E04	MIL-STD-462 Method RS03 employing RADHAZ procedures for high level testing (Consult laboratory for field strengths available)

NVLAP LAB CODE 200305-0

GE Owensboro Test Laboratory

3301 Old Hartford Road
Owensboro, KY 42303
Contact: Mr. Robert Riley
Phone: 270-686-1270
Fax: 270-686-1262

Efficiency of Electric Motors
Accreditation Valid Through: March 31, 2002

NVLAP Code	*Designation*
24/M01	IEEE 112, Method B

NVLAP LAB CODE 200306-0

Zacta Technology Corporation Yonezawa Testing Center

4149-7 Hachimanpara 5-chome
Yonezawa-shi Yamagata 992-1128
JAPAN
Contact: Mr. Shin-ichi Abe
Phone: 81-238-28-2880
Fax: 81-238-28-2888
E-Mail: shinichi_abe@zacta.co.jp

Electromagnetic Compatibility & Telecommunications
Accreditation Valid Through: June 30, 2002

NVLAP Code	*Designation*

Emissions Test Methods:

12/CIS22	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

Immunity Test Methods:

12/I01	IEC 61000-4-2 (1995) and Amendment 1 (1998): Electrostatic Discharge Immunity Test
12/I02	IEC 61000-4-3 (1995) and Amendment 1 (1998): Radiated, Radio-Frequency Electromagnetic Field Immunity Test
12/I03	IEC 61000-4-4 (1995): Electrical Fast

	Transient/Burst Immunity Test
12/I04	IEC 61000-4-5 (1995): Surge Immunity Test
12/I05	IEC 61000-4-6 (1996): Immunity to Conducted Disturbances, Induced Radio-Frequency Fields
12/I06	IEC 61000-4-8 (1993): Power Frequency Magnetic Field Immunity Test
12/I07	IEC 61000-4-11 (1994): Voltage Dips, Short Interruptions and Voltage Variations Immunity Tests

NVLAP LAB CODE 200308-0

SNB Laboratory

49 Abbott Street
P.O. Box 68
Cumberland, RI 02864-0968
Contact: Mr. James Faria
Phone: 401-722-6701
Fax: 401-722-6704

Fasteners & Metals

Accreditation Valid Through: March 31, 2002

NVLAP Code	*Designation*
Mechanical and Physical Testing and Inspection	
Axial tensile strength of full-size threaded fasteners	
FA/265	ASTM A370 Sec. A3.2.1.4
FA/266	ASTM F606 Sec. 3.4.1-3.4.3
FA/273	SAE J429
Cone proof load of internally threaded fasteners (nuts)	
FA/220	ASTM F606 Sec. 4.3
Proof load of full-size externally threaded fasteners	
FA/226	ASTM F606 Sec. 3.2.1-3.2.3
FA/229	SAE J429 Sec. 5.3
Proof load of internally threaded fasteners (nuts)	
FA/236	ASTM F606 Sec. 4.2
Rockwell hardness of fasteners	
FA/197	ASTM E18
Tension testing of machined specimens from externally threaded fasteners	
FA/278	ASTM A370
FA/279	ASTM F606 Sec. 3.6
Wedge tensile strength of full-size threaded fasteners	
FA/289	ASTM A370
FA/290	ASTM F606 Sec. 3.5
Yield strength of full-size externally threaded fasteners	
FA/298	ASTM F606 Sec. 3.2.4

NVLAP LAB CODE 200309-0

TDK Corporation's 10m Anechoic Chamber & 3m Anechoic Chamber

2-15-7 Higashi-Owada
Ichikawa-shi, Chiba-ken 272-8558
JAPAN
Contact: Mr. Nobuyuki Ono
Phone: 81-473-78-9190
Fax: 81-473-78-9189
E-Mail: onon@@mb1.tdk.co.jp

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: June 30, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS22	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

NVLAP LAB CODE 200312-0

Sony Electronics Inc. Product Quality Division EMC Group

16450 West Bernardo Drive, Building 8
San Diego, CA 92127-1804
Contact: Mr. Dave Traver
Phone: 858-942-2601
Fax: 858-942-9231
E-Mail: david.traver@am.sony.com

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: June 30, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS22	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

Immunity Test Methods:	
12/I01	IEC 61000-4-2 (1995) and Amendment 1 (1998): Electrostatic Discharge Immunity Test
12/I02	IEC 61000-4-3 (1995) and Amendment 1 (1998): Radiated, Radio-Frequency Electromagnetic Field Immunity Test
12/I03	IEC 61000-4-4 (1995): Electrical Fast Transient/Burst Immunity Test
12/I04	IEC 61000-4-5 (1995): Surge Immunity Test
12/I05	IEC 61000-4-6 (1996): Immunity to Conducted Disturbances, Induced Radio-Frequency Fields
12/I06	IEC 61000-4-8 (1993): Power Frequency Magnetic Field Immunity Test
12/I07	IEC 61000-4-11 (1994): Voltage Dips, Short Interruptions and Voltage Variations Immunity Tests

NVLAP LAB CODE 200313-0

Eastman Kodak Co.- EMC Facility

901 Elmgrove Road
Rochester, NY 14653-5513
Contact: Mr. Cavan A. Kelsey
Phone: 716-726-9549
Fax: 716-726-7283
E-Mail: Cavan.kelsey@kodak.com

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: June 30, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548
Immunity Test Methods:	
12/I01	IEC 61000-4-2 (1995) and Amendment 1 (1998): Electrostatic Discharge Immunity Test
12/I02	IEC 61000-4-3 (1995) and Amendment 1 (1998): Radiated, Radio-Frequency Electromagnetic Field Immunity Test
12/I03	IEC 61000-4-4 (1995): Electrical Fast Transient/Burst Immunity Test
12/I04	IEC 61000-4-5 (1995): Surge Immunity Test
12/I05	IEC 61000-4-6 (1996): Immunity to Conducted Disturbances, Induced Radio-Frequency Fields
12/I06	IEC 61000-4-8 (1993): Power Frequency Magnetic Field Immunity Test
12/I07	IEC 61000-4-11 (1994): Voltage Dips, Short Interruptions and Voltage Variations Immunity Tests

NVLAP LAB CODE 200317-0

Raytheon Technical Services Co. EMI Laboratory

6125 E. 21st Street, M/S 32
Indianapolis, IN 46219-2058
Contact: Mr. Keith Hines
Phone: 317-306-7484
Fax: 317-306-4949
E-Mail: hinesk@indy.raytheon.com

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: December 31, 2002

NVLAP Code	*Designation*
MIL-STD-462 : Conducted Emissions:	
12/A06	MIL-STD-462 Method CE03
12/A13	MIL-STD-462 Version D Method CE101
12/A14	MIL-STD-462 Version D Method CE102
12/A15	MIL-STD-462 Version D Method CE106
12/A16	MIL-STD-461 Version E Method CE101
12/A17	MIL-STD-461 Version E Method CE102
12/A18	MIL-STD-461 Version E Method CE106
MIL-STD-462 : Conducted Susceptibility:	
12/B05	MIL-STD-462 Method CS06
12/B12	MIL-STD-462 Version D Method CS101
12/B13	MIL-STD-462 Version D Method CS103
12/B14	MIL-STD-462 Version D Method CS104
12/B15	MIL-STD-462 Version D Method CS105
12/B16	MIL-STD-462 Version D Method CS109
12/B17	MIL-STD-462 Version D Method CS114
12/B18	MIL-STD-462 Version D Method CS115
12/B19	MIL-STD-462 Version D Method CS116
12/B20	MIL-STD-461 Version E Method CS101
12/B21	MIL-STD-461 Version E Method CS103
12/B22	MIL-STD-461 Version E Method CS104
12/B23	MIL-STD-461 Version E Method CS105
12/B24	MIL-STD-461 Version E Method CS109
12/B25	MIL-STD-461 Version E Method CS114
12/B26	MIL-STD-461 Version E Method CS115
12/B27	MIL-STD-461 Version E Method CS116
MIL-STD-462 : Radiated Emissions:	
12/D02	MIL-STD-462 Method RE02
12/D04	MIL-STD-462 Version D Method RE101
12/D05	MIL-STD-462 Version D Method RE102
12/D07	MIL-STD-461 Version E Method RE101
12/D08	MIL-STD-461 Version E Method RE102
MIL-STD-462 : Radiated Susceptibility:	
12/E02	MIL-STD-462 Method RS02
12/E03	MIL-STD-462 Method RS03 (Consult

	laboratory for field strengths available)
12/E08	MIL-STD-462 Version D Method RS101
12/E09	MIL-STD-462 Version D Method RS103
12/E11	MIL-STD-461 Version E Method RS101
12/E12	MIL-STD-461 Version E Method RS103

NVLAP LAB CODE 200319-0

TDK Corporation's Chikumagawa Open Site

543 Otai
Saku-shi, Nagano-ken 385-8555
JAPAN
Contact: Mr. Nobuyuki Ono
Phone: 81-473-78-9190
Fax: 81-473-78-9189
E-Mail: ono@mb1.tdk.co.jp

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: June 30, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS22	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

NVLAP LAB CODE 200320-0

Modern Plating Corporation

P.O. Box 838, South Hancock Avenue
Freeport, IL 61032-0838
Contact: Mr. Daniel James Mauer
Phone: 815-235-3111
Fax: 815-235-4571

Fasteners & Metals

Accreditation Valid Through: June 30, 2002

NVLAP Code	*Designation*
Chemical Analysis	
Solution chemical analysis	
FA/969	MPC AA Work Instructions
Dimensional Inspection	
Dimensions of general purpose fasteners and high-volume machine assembly fasteners	
FA/404	ANSI/ASME B18.18.2M
Dimensions of special purpose fasteners and fasteners for highly specialized engineered ap	
FA/405	ANSI/ASME B18.18.3M
FA/406	ANSI/ASME B18.18.4M
Mechanical and Physical Testing and Inspection	
Adhesion of metallic coatings on fasteners	
FA/143	ASTM B571
Measurement of fastener coating thickness - X-ray methods	
FA/556	ASTM B568
Measurement of fastener coating thickness - eddy-current method	
FA/148	ASTM B244
Measurement of fastener coating thickness - magnetic methods	
FA/153	ASTM B499
Measurement of fastener coating thickness - weight of coating	
FA/970	MPC Coating Weight Work Instructions
Salt spray testing of fasteners	
FA/166	ASTM B117

NVLAP LAB CODE 200321-0

Binder Metal Products, Inc.

14909 South Broadway
Gardena, CA 90248
Contact: Mr. Bill Weber
Phone: 323-321-4835
Fax: 310-532-2936
E-Mail: billw@bindermetal.com
URL: http://bindermetal.com

Fasteners & Metals

Accreditation Valid Through: September 30, 2002

NVLAP Code	*Designation*
Dimensional Inspection	
Dimensions of fasteners - flatness	
FA/975	ASME Y14.5M
FA/976	Binder QAI 0007
Mechanical and Physical Testing and Inspection	
Hardness preparation	
FA/482	ASTM F606
Measurement of fastener coating thickness - eddy-current method	
FA/977	Binder QAI 0005
FB/1217	Binder QAI0005
Rockwell hardness of fasteners	
FA/197	ASTM E18
FA/978	Binder QAI 0006

NVLAP LAB CODE 200322-0

Nowicki & Associates, Inc.
33516 9th Avenue South Bldg. 6
Federal Way, WA 98003-6322
Contact: Mr. Ronald Nowicki
Phone: 253-927-5233
Fax: 253-924-0323
E-Mail: RENOWICKI@AOL.COM

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: March 31, 2002

NVLAP LAB CODE 200323-0

ALAC
522 East 20th Street, Suite 6E
New York, NY 10009
Contact: Mr. Aleksandr Knobel
Phone: 646-654-1473
Fax: 646-654-1476

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: June 30, 2002

NVLAP LAB CODE 200324-0

Clark Seif Clark, Inc.
21732 Devonshire Street, 2nd Floor
Chatsworth, CA 91311
Contact: Mr. Christian Goerrissen
Phone: 818-727-2553
Fax: 818-727-2556
E-Mail: cgoerrissen@csceng.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: December 31, 2002

NVLAP LAB CODE 200325-0

TEC-AN, Inc.
2517 S. Purdue Avenue
Oklahoma City, OK 73128-1830
Contact: Mr. Donald J. Nist
Phone: 405-681-7076
Fax: 405-681-7256
E-Mail: tec-an@coxinet.net

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: June 30, 2002

NVLAP LAB CODE 200327-0

Saturn Fasteners, Inc.
425 South Varney Street
Burbank, CA 91502
Contact: Mr. Nicholas Karabetsos
Phone: 818-846-7145
Fax: 818-846-7306
E-Mail: sateng1@aol.com

Fasteners & Metals
Accreditation Valid Through: September 30, 2002

NVLAP
Code *Designation*

Dimensional Inspection

Dimensions of fasteners - hexagon and double hexagon (12 point) and spline sockets
FA/972 NAS 4002
FA/973 NAS 624-644

Dimensions of fasteners - straightness
FA/974 NAS 4002

External thread parameters - SAE fastener with MJ metric screw threads
FA/693 FED-STD-H28/20

External thread parameters - system 21
FA/380 FED-STD-H28/20

External thread parameters - system 22
FA/382 FED-STD-H28/20

External thread parameters - system 23
FA/386 FED-STD-H28/20

Surface texture
FA/439 ANSI/ASME B46.1

Mechanical and Physical Testing and Inspection

Axial tensile strength of full-size threaded fasteners
FA/271 MIL-STD-1312-8

Bend test of full size eyebolts
FA/971 MIL-B-6812 Section 4.5.4

Double shear of externally threaded fasteners
FA/257 MIL-STD-1312-13

Fatigue of full-size threaded fasteners
FA/183 MIL-STD-1312-11

Hydrogen embrittlement (stress durability) of externally threaded fasteners
FA/176 MIL-STD-1312-5

Magnetic permeability
FA/214 ASTM A342 Test Method 3

Measurement of fastener coating thickness - dimensional change method
FA/495 MIL-STD-1312-12

Measurement of fastener coating thickness - eddy-current method
FA/152 MIL-STD-1312-12

Microhardness of fasteners
FA/189 ASTM E384

Recess strength test in both the installation and removal directions

(See 'How To Use This Directory' on page 7.)

Rockwell hardness of fasteners

FA/201 MIL-STD-1312-6

Rockwell superficial hardness of fasteners

FA/209 MIL-STD-1312-6

Tension testing of machined specimens from externally threaded fasteners

FA/475 ASTM E8

Wedge tensile strength of full-size threaded fasteners

FA/290 ASTM F606 Sec. 3.5

Metallography

Decarburization and case depth measurement in fasteners

FA/483 ASTM A574 Sec. 12

Determination of grain size of fasteners

FA/331 ASTM E112

Macroscopic examination of fasteners by etching

FA/511 ASTM E340

Microscopic examination of fasteners by etching

FA/341 ASTM E1077

Surface discontinuities of externally threaded fasteners

FA/357 ASTM F788/788M

NVLAP LAB CODE 200328-0

Prospect Testing Labs, Inc.

1245 Forest Avenue
Des Plaines, IL 60018
Contact: Mr. Seung W. Lyu
Phone: 847-827-4766
Fax: 847-299-6222

Fasteners & Metals

Accreditation Valid Through: March 31, 2002

NVLAP Code *Designation*

Chemical Analysis

Optical emission spectrochemical analysis

FA/457 ASTM E415
FA/459 ASTM E1086
FA/460 ASTM E1251

Mechanical and Physical Testing and Inspection

Axial tensile strength of full-size threaded fasteners

FA/266 ASTM F606 Sec. 3.4.1-3.4.3
FA/273 SAE J429
FA/530 ASTM E8
FA/799 NASM 1312-8

Brinell hardness of fasteners

FA/186 ASTM E10

Hydrogen embrittlement (stress durability) of externally threaded fasteners

FA/875 NASM 1312-5
FA/924 ASTM F606
FA/967 GM 6010M

Hydrogen embrittlement (stress durability) of internally threaded fasteners

FA/968 GM 6010M

Intergranular corrosion susceptibility in austentic stainless steel fasteners - nitric aci

FA/173 ASTM A262 Sec. 15-21, Practice C

Intergranular corrosion susceptibility of austentic stainles steel fasteners - oxalic acid

FA/174 ASTM A262 Sec. 3-7, Practice A

Measurement of fastener coating thickness - microscopical method

FA/160 ASTM B487
FA/873 NASM 1312-12

Measurement of fastener coating thickness - weight of coating

FA/164 ASTM A90

Microhardness of fasteners

FA/189 ASTM E384

Proof load of full-size externally threaded fasteners

FA/226 ASTM F606 Sec. 3.2.1-3.2.3
FA/229 SAE J429

Proof load of internally threaded fasteners (nuts)

FA/236 ASTM F606 Sec. 4.2
FA/241 SAE J995 Sec. 5.1

Rockwell hardness of fasteners

FA/197 ASTM E18

Rockwell superficial hardness of fasteners

FA/205 ASTM E18

Tension testing of machined specimens from externally threaded fasteners

FA/475 ASTM E8

Torque-tension of full-size threaded fasteners

FA/882 NASM 1312-15

Torsional strength test of thread rolling and self-drilling tappings screws

FA/252 ASTM F738M
FA/254 SAE J81
FA/751 SAE J933
FA/966 ASTM F880M

Wedge tensile strength of full-size threaded fasteners

FA/290 ASTM F606 Sec. 3.5
FA/468 SAE J429

Metallography

Decarburization and case depth measurement in fasteners

FA/323 ASTM E1077
FA/328 SAE J121

Determination of grain size of fasteners

FA/331 ASTM E112

Macroscopic examination of fasteners by etching

FA/551 ASTM E3

Microscopic examination of fasteners by etching

FA/552 ASTM E3

Surface discontinuities of externally threaded fasteners

FA/361 SAE J123
FA/362 SAE J1061

Surface discontinuities of internally threaded fasteners

FA/365 SAE J122

(See 'How To Use This Directory' on page 7.)

NVLAP LAB CODE 200331-0

HomeTek Technology Inc.

P.O Box: 13-131, Pan-Chiao City
No. 85-5 Shir Men Rd., Tu Chen City
Taipei Shien 236
TAIWAN
Contact: Mr. Grant Huang
Phone: 886-2-22608375
Fax: 886-2-22748013
E-Mail: hometek@ms15.hinet.net

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: September 30, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

NVLAP LAB CODE 200333-0

EMSL Analytical, Inc.

175 Clearbrook Road
Cross West Chester Executive Plaza
Elmsford, NY 10523
Contact: Mr. Robert Georgens
Phone: 914-592-4688
Fax: 914-592-6798
E-Mail: elmsfordlab@emsl.com
URL: http://www.emsl.com

Bulk Asbestos Analysis (PLM)

Accreditation Valid Through: June 30, 2002

Airborne Asbestos Analysis (TEM)

Accreditation Valid Through: June 30, 2002

NVLAP LAB CODE 200335-0

Hygeia Laboratories, Inc.

9955 NW 116 Way, Suite 1
Miami, FL 33178
Contact: Mr. Julio Lopez
Phone: 305-882-8200
Fax: 305-882-1200
E-Mail: LOPEZ31@ATC-ENVIRO.COM
URL: http://www.atc-enviro.com

Bulk Asbestos Analysis (PLM)

Accreditation Valid Through: June 30, 2002

Airborne Asbestos Analysis (TEM)

Accreditation Valid Through: June 30, 2002

NVLAP LAB CODE 200336-0

Pratt & Whitney Materials Control Lab/Quality & Standards Lab

400 Main Street, Mail Stop 114-47
East Hartford, CT 06108
Contact: Mr. Stanley F. Ciempa, Jr.
Phone: 860-565-2857
Fax: 860-565-1506
E-Mail: ciempasf@pweh.com

Fasteners & Metals

Accreditation Valid Through: June 30, 2002

NVLAP Code	*Designation*
Chemical Analysis	
Combustion analysis for carbon, sulfur, oxygen, nitrogen, and hydrogen	
FB/1024	P&W M-165
FB/1025	P&W M-166
FB/1026	P&W M-175
Energy dispersive X-ray analysis	
FB/1030	P&W N-51
Optical emission spectrochemical analysis	
FB/1027	P&W M-186
FB/1028	P&W N-11
X-ray fluorescence (XRF) spectrochemical analysis	
FB/1029	P&W N-60
Mechanical and Physical Testing and Inspection	
Axial tensile strength of full-size threaded fasteners	
FB/1018	P&W K-32
Brinell hardness of fasteners	
FB/1009	P&W E-O Supp C
Charpy impact (v-notch) testing	
FB/1014	P&W K-162
Elevated temperature testing capability	
FB/1135	P&W K-33
Fatigue of full-size threaded fasteners	
FB/1008	P&W K-317
Flareability test of clinch and shank nuts	
FB/1006	P&W K-309

Measurement of fastener coating thickness - microscopical method

FB/1136 P&W E-23

Microhardness of fasteners

FB/1010 P&W E-O Supp C

Proof load of full-size externally threaded fasteners

FB/1015 P&W K-32

Proof load of internally threaded fasteners (nuts)

FB/1016 P&W K-32

Rockwell hardness of fasteners

FB/1011 P&W E-O Supp C

Rockwell superficial hardness of fasteners

FB/1012 P&W E-O Supp C

Salt spray testing of fasteners

FB/1007 P&W P-23

Stress rupture of fasteners

FB/1017 P&W E-1107

Vickers hardness - test forces from 9.807 to 1176 N (1 to 120 kgf)

FB/1013 P&W E-O Supp C

Metallography

Decarburization and case depth measurement in fasteners

FB/1019 P&W E-23

Determination of grain size of fasteners

FA/331 ASTM E112

Macroscopic examination of fasteners by etching

FB/1020 P&W K-76

Microscopic examination of fasteners by etching

FB/1021 P&W E-23

Surface discontinuities of externally threaded fasteners

FB/1022 P&W E-23
FB/1023 P&W E-242

NVLAP LAB CODE 200340-0

Diviersified T.E.S.T. Technologies, Inc.

556 Route 222, P.O. Box 8
Groton, NY 13073
Contact: Mr. Thomas P. Sims
Phone: 607-898-4218
Fax: 607-898-4830
E-Mail: tom@dttlab.com
URL: http://www.dttlab.com

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: December 31, 2002

NVLAP Code *Designation*

Emissions Test Methods:

12/CIS22 IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/F01 FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b Radiated Emissions
12/T51 AS/NZS 3548

NVLAP LAB CODE 200341-0

United Steel and Fasteners Inc.

1500 Industrial Drive
Itasca, IL 60143
Contact: Mr. G. Perri
Phone: 630-250-0900
Fax: 630-250-0220
E-Mail: us_f@msn.com

Fasteners & Metals

Accreditation Valid Through: September 30, 2002

NVLAP Code *Designation*

Dimensional Inspection

Dimensions of fasteners - bearing surface squareness

FA/745 ANSI B18.2.1

Dimensions of fasteners - straightness

FA/423 ANSI/ASME B18.2.1

Dimensions of general purpose fasteners and high-volume machine assembly fasteners

FA/494 ANSI B18.2.1

Mechanical and Physical Testing and Inspection

Axial tensile strength of full-size threaded fasteners

FA/266 ASTM F606 Sec. 3.4.1-3.4.3
FA/273 SAE J429

Hardness preparation

FA/482 ASTM F606

Proof load of full-size externally threaded fasteners

FA/226 ASTM F606 Sec. 3.2.1-3.2.3
FA/229 SAE J429

Rockwell hardness of fasteners

FA/202 SAE J417

Tension testing of machined specimens from externally threaded fasteners

FA/279 ASTM F606 Sec. 3.6
FA/283 SAE J429

NVLAP LAB CODE 200345-0

Ricoh Company LTD. Ohmori Acoustics Test Site

3-6, 1 Chome, Nakamagome, Ohta-ku
Tokyo 143-8555
JAPAN
Contact: Mr. Yuji Noritake
Phone: 03-3777-8183
Fax: 03-3777-0811
E-Mail: yuji.noritake@nts.ricoh.co.jp

Acoustical Testing Services

Accreditation Valid Through: September 30, 2002

NVLAP Code *Designation*

08/P48 ISO 7779

NVLAP LAB CODE 200346-0

SCILAB California, Inc.
24416 South Main Street, Suite 308
Carson, CA 90745
Contact: Ms. Heidi Hanser
Phone: 310-834-4868
Fax: 310-834-4772
E-Mail: hhanser@scilabs.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: December 31, 2002

Airborne Asbestos Analysis (TEM)
Accreditation Valid Through: December 31, 2002

NVLAP LAB CODE 200347-0

Quietek Corporation
No. 75-2 Wang-Yeh Velley, Yung-Hsing
Chiung-Lin
Hsin-Chu Country
TAIWAN
Contact: Mr. Gene Chang
Phone: 886-3-5928858
Fax: 886-3-5928859
E-Mail: gene@quietek.com
URL: http://www.quietek.com

Electromagnetic Compatibility & Telecommunications
Accreditation Valid Through: September 30, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

NVLAP LAB CODE 200349-0

Crisp Analytical Laboratory
2081 Hutton Drive, Suite 301
Carrollton, TX 75006
Contact: Mr. Leslie Crisp
Phone: 972-488-1414
Fax: 972-488-8006

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: September 30, 2002

Airborne Asbestos Analysis (TEM)
Accreditation Valid Through: September 30, 2002

NVLAP LAB CODE 200350-0

White Environmental Consultants, Inc.
1130 N. Nimitz Hwy. #B220
Honolulu, HI 96817
Contact: Mr. Shad Wells
Phone: 808-536-8819
Fax: 808-536-0191
E-Mail: jayclayton@hawaii.rr.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: September 30, 2002

NVLAP LAB CODE 200358-0

Patriot Environmental Laboratory Services, Inc.
12832 Valley View Street, Suite 107
Garden Grove, CA 92845
Contact: Mr. James Thornbrugh, II
Phone: 714-899-8900
Fax: 714-899-7098
E-Mail: Patriotlab@earthlink.net

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: September 30, 2002

NVLAP LAB CODE 200361-0

Architectural Testing Inc.
130 Derry Ct.
York, PA 17402
Contact: Mr. Eric J. Miller
Phone: 717-764-7700
Fax: 717-764-4129
E-Mail: emiller@testati.com
URL: http://www.testati.com

Acoustical Testing Services
Accreditation Valid Through: September 30, 2002

NVLAP Code	*Designation*
08/P03	ASTM C423
08/P06	ASTM E90
08/P10	ANSI S12.31
08/P30	ASTM E1408
08/P31	ASTM E336
08/P37	ASTM E966

08/P43	ASTM E1425
08/P44	ISO 354
08/P45	ISO 140, Part 3
08/P46	ISO 3741

NVLAP LAB CODE 200362-0

TEAC Corporation EMC Center

857 Koyata, Iruma-shi
Saitama-ken 358-8510
JAPAN
Contact: Mr. Hirokatsu Nagashima
Phone: 81-42-462-7159
Fax: 81-42-963-7153
E-Mail: hiro@ir.teac.co.jp

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: December 31, 2002

Emissions Test Methods:

NVLAP Code	*Designation*
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

NVLAP LAB CODE 200363-0

Sun Microsystems, Inc. EMC Testing

901 San Antonio Road
MS UMPK25-101
Palo Alto, CA 94303-4900
Contact: Mr. Hugh Hagel
Phone: 650-786-3215
Fax: 650-786-4316
E-Mail: Hugh.Hagel@sun.com

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: December 31, 2002

Emissions Test Methods:

NVLAP Code	*Designation*
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

Immunity Test Methods:

NVLAP Code	*Designation*
12/I01	IEC 61000-4-2 (1995) and Amendment 1 (1998): Electrostatic Discharge Immunity Test
12/I02	IEC 61000-4-3 (1995) and Amendment 1 (1998): Radiated, Radio-Frequency Electromagnetic Field Immunity Test
12/I03	IEC 61000-4-4 (1995): Electrical Fast Transient/Burst Immunity Test
12/I04	IEC 61000-4-5 (1995): Surge Immunity Test
12/I05	IEC 61000-4-6 (1996): Immunity to Conducted Disturbances, Induced Radio-Frequency Fields
12/I07	IEC 61000-4-11 (1994): Voltage Dips, Short Interruptions and Voltage Variations Immunity Tests

NVLAP LAB CODE 200364-0

Kyushu Matsushita Electric Test Lab EMC Center

441-13 Nagahasu Tateishi-cho
Tosu-shi Saga-ken 841-8585
JAPAN
Contact: Mr. Hideo Hara
Phone: 81-942-84-8472
Fax: 81-942-84-8470
E-Mail: PAN40452@pios.kme.mei.co.jp

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: December 31, 2002

Emissions Test Methods:

NVLAP Code	*Designation*
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.

12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

NVLAP LAB CODE 200368-0

Sony EMCS Corporation Minokamo TEC

9-15-22, Hongo-cho Minokamo City
Gifu-Pref. 505-8510
JAPAN
Contact: Mr. Yoshiki Matsuguchi
Phone: 81-574-25-8161
Fax: 81-574-25-9143
E-Mail: matuguti@mkm.sony.co.jp

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: December 31, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions

NVLAP LAB CODE 200369-0

PWC Environmental Laboratory, Pearl Harbor

Code 343
400 Marshall Road
Pearl Harbor, HI 96860
Contact: Ms. Ginger Nakamoto
Phone: 808-474-3704 X317
Fax: 808-471-4534
E-Mail: nakamotogj@pwcpearl.navy.mil

Bulk Asbestos Analysis (PLM)

Accreditation Valid Through: September 30, 2002

NVLAP LAB CODE 200371-0

Audix Technology (Shanghai) Co., Ltd.

3F 34 Bldg. 680 Guiping Road
Caohejing, Hi-Tech Park
Shanghai 200233
CHINA
Contact: Mr. Jeff Chen
Phone: 86-21-64955500
Fax: 86-21-64955491
E-Mail: audixaci@audix.com

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: March 31, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548
Immunity Test Methods:	
12/I01	IEC 61000-4-2 (1995) and Amendment 1 (1998): Electrostatic Discharge Immunity Test
12/I02	IEC 61000-4-3 (1995) and Amendment 1 (1998): Radiated, Radio-Frequency Electromagnetic Field Immunity Test
12/I03	IEC 61000-4-4 (1995): Electrical Fast Transient/Burst Immunity Test
12/I04	IEC 61000-4-5 (1995): Surge Immunity Test
12/I05	IEC 61000-4-6 (1996): Immunity to Conducted Disturbances, Induced Radio-Frequency Fields
12/I06	IEC 61000-4-8 (1993): Power Frequency Magnetic Field Immunity Test
12/I07	IEC 61000-4-11 (1994): Voltage Dips, Short Interruptions and Voltage Variations Immunity Tests

(See 'How To Use This Directory' on page 7.)

NVLAP LAB CODE 200372-0

AUDIX Technology (Shenzhen) Co., Ltd.

No. 6 Ke Feng Road 52 Block Shenzhen
Science & Industry Park, Nantou
Shenzhen, Guangdong
CHINA
Contact: Mr. Smart Tsai
Phone: 86-755-663-9496
Fax: 86-755-663-2877
E-Mail: smartsai@ms12.hinet.net

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: March 31, 2002

Emissions Test Methods:

NVLAP Code	*Designation*
12/CIS22	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

Immunity Test Methods:

NVLAP Code	*Designation*
12/I01	IEC 61000-4-2 (1995) and Amendment 1 (1998): Electrostatic Discharge Immunity Test
12/I02	IEC 61000-4-3 (1995) and Amendment 1 (1998): Radiated, Radio-Frequency Electromagnetic Field Immunity Test
12/I03	IEC 61000-4-4 (1995): Electrical Fast Transient/Burst Immunity Test
12/I04	IEC 61000-4-5 (1995): Surge Immunity Test
12/I05	IEC 61000-4-6 (1996): Immunity to Conducted Disturbances, Induced Radio-Frequency Fields
12/I06	IEC 61000-4-8 (1993): Power Frequency Magnetic Field Immunity Test
12/I07	IEC 61000-4-11 (1994): Voltage Dips, Short Interruptions and Voltage Variations Immunity Tests

NVLAP LAB CODE 200373-0

Fujitsu General EMC Laboratory

1116, Suenaga, Takatsu-ku
Kawasaki 213-8502
JAPAN
Contact: Mr. Hiroyuki Shimanoe
Phone: 81-44-861-7897
Fax: 81-44-861-9890
E-Mail: shimanoe@fujitsugeneral.co.jp
URL: http://www.fujitsugeneral.co.jp/emc/

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: December 31, 2002

Emissions Test Methods:

NVLAP Code	*Designation*
12/CIS14	CISPR 14-1 (March 30, 2000): Limits and methods of measurement of radio interference characteristics of household electrical appliances, portable tools and similar electrical apparatus - Part 1: Emissions
12/CIS14a	EN 55014-1 (1993) with Amendments A1 (1997) & A2 (1999)
12/CIS14b	AS/NZS 1044 (1995)
12/CIS14c	CNS 13783-1
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

NVLAP LAB CODE 200374-0

EnviroHealth Technologies, Inc.
3830 Washington Boulevard, Suite 123
St. Louis, MO 63108-3406
Contact: Mr. William J. Lowry
Phone: 314-531-9868
Fax: 314-531-9196
E-Mail: wlowry@envirohealthtechnologies.com
URL: http://www.envirohealthtechnologies.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: June 30, 2002

NVLAP LAB CODE 200375-0

EMSL Analytical, Inc.
11931 Industriplex, Suite 100
Baton Rouge, LA 70809
Contact: Mr. Kenneth Klutts
Phone: 225-755-1920
Fax: 225-755-1989
E-Mail: batonrouge@emsl.com
URL: http://www.emsl.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: December 31, 2002

Airborne Asbestos Analysis (TEM)
Accreditation Valid Through: December 31, 2002

NVLAP LAB CODE 200376-0

Advance Data Technology Corporation Hsin Chu EMC Laboratory
No. 81-1, Lu Liao Keng, 9 Ling, Wu Lung
Tsuen, Chiung Lin Hsiang
Hsin Chu Hsien 307
TAIWAN
Contact: Mr. Harris Lai
Phone: 886-2-26032180
Fax: 886-2-26022943
E-Mail: harris@mail.adt.com.tw
URL: www.adt.com.tw

Electromagnetic Compatibility & Telecommunications
Accreditation Valid Through: March 31, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

NVLAP LAB CODE 200378-0

TECO Electric & Machinery Co., Ltd.
11 An Tung Road, Chung Li Ind. District
Taoyuan
TAIWAN
Contact: Mr. Arnold Wu
Phone: 02-2655-3333
Fax: 02-2655-2231
E-Mail: wu.arnold@teco.com.tw

Efficiency of Electric Motors
Accreditation Valid Through: March 31, 2002

NVLAP Code	*Designation*
24/M01	IEEE 112, Method B

NVLAP LAB CODE 200382-0

Boeing - St. Louis Electromagnetic Compatibility Laboratory
Mail Code S1065205
P.O. Box 516
St. Louis, MO 63166-0516
Contact: Mr. Randy R. Vollmer
Phone: 314-233-7798
Fax: 314-233-5478
E-Mail: randy.r.vollmer@boeing.com

Electromagnetic Compatibility & Telecommunications
Accreditation Valid Through: June 30, 2002

NVLAP Code	*Designation*
MIL-STD-462 : Conducted Emissions:	
12/A01	MIL-STD-462 Method CE01
12/A04	MIL-STD-462 Method CE02
12/A06	MIL-STD-462 Method CE03
12/A08	MIL-STD-462 Method CE04
12/A13	MIL-STD-462 Version D Method CE101
12/A14	MIL-STD-462 Version D Method CE102
12/A16	MIL-STD-461 Version E Method CE101
12/A17	MIL-STD-461 Version E Method CE102
MIL-STD-462 : Conducted Susceptibility:	
12/B01	MIL-STD-462 Method CS01
12/B02	MIL-STD-462 Method CS02
12/B05	MIL-STD-462 Method CS06
12/B07	MIL-STD-462 Method CS09
12/B08	MIL-STD-462 Method CS10
12/B09	MIL-STD-462 Method CS11
12/B10	MIL-STD-462 Method CS12
12/B11	MIL-STD-462 Method CS13
12/B12	MIL-STD-462 Version D Method CS101
12/B16	MIL-STD-462 Version D Method CS109
12/B17	MIL-STD-462 Version D Method CS114
12/B18	MIL-STD-462 Version D Method CS115

(See 'How To Use This Directory' on page 7.)

12/B19	MIL-STD-462 Version D Method CS116
12/B20	MIL-STD-461 Version E Method CS101
12/B24	MIL-STD-461 Version E Method CS109
12/B25	MIL-STD-461 Version E Method CS114
12/B26	MIL-STD-461 Version E Method CS115
12/B27	MIL-STD-461 Version E Method CS116

MIL-STD-462 : Radiated Emissions:

12/D01	MIL-STD-462 Method RE01
12/D02	MIL-STD-462 Method RE02
12/D04	MIL-STD-462 Version D Method RE101
12/D05	MIL-STD-462 Version D Method RE102
12/D07	MIL-STD-461 Version E Method RE101
12/D08	MIL-STD-461 Version E Method RE102

MIL-STD-462 : Radiated Susceptibility:

12/E01	MIL-STD-462 Method RS01
12/E02	MIL-STD-462 Method RS02
12/E03	MIL-STD-462 Method RS03 (Consult laboratory for field strengths available)
12/E04	MIL-STD-462 Method RS03 employing RADHAZ procedures for high level testing (Consult laboratory for field strengths available)
12/E07	MIL-STD-462 Method RS06
12/E08	MIL-STD-462 Version D Method RS101
12/E09	MIL-STD-462 Version D Method RS103
12/E11	MIL-STD-461 Version E Method RS101
12/E12	MIL-STD-461 Version E Method RS103

NVLAP LAB CODE 200383-0

NCR Corp. San Diego EMC Lab

17095 Via del Campo
San Diego, CA 92127-1711
Contact: Mr. Paul Rostek
Phone: 858-485-2860
Fax: 858-485-3788
E-Mail: paul.rostek@ncr.com

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: December 31, 2002

Emissions Test Methods:

NVLAP Code	*Designation*
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

NVLAP LAB CODE 200398-0

Sony EMCS Corp. Kohda TEC

1, Aza-Suzumegairi Ohaza-Sakazaki
Kohta-cho
Nukata-gun Aichi 444-0194
JAPAN
Contact: Mr. Katsuyoshi Fukui
Phone: 81-564-62-8948
Fax: 81-564-62-2478
E-Mail: kfukui@skd.sony.co.jp

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: June 30, 2002

Emissions Test Methods:

NVLAP Code	*Designation*
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions

NVLAP LAB CODE 200399-0

EMSL Analytical Inc. Bulk And Airborne Asbestos Fiber Analysis

706 North Aberdeen, Suite 1A
Chicago, IL 60622
Contact: Ms. Sandra C. Sobrino
Phone: 312-733-0896
Fax: 312-733-0590

URL: http://www.emsl.com

Bulk Asbestos Analysis (PLM)

Accreditation Valid Through: March 31, 2002

Airborne Asbestos Analysis (TEM)

Accreditation Valid Through: March 31, 2002

NVLAP LAB CODE 200402-0

Interface Testing Laboratory

1603 Executive Drive. P.O. Box 1503
LaGrange, GA 30240-1503
Contact: Ms. Toni Brown
Phone: 706-812-6152
Fax: 706-884-8669
E-Mail: toni.brown@us.interfaceinc.com

Carpet and Carpet Cushion

Accreditation Valid Through: September 30, 2002

Tests Applicable to Carpet and Carpet Cushion

NVLAP Code	*Designation*
03/T04	16 CFR Part 1630 (FF-1-70)

Tests Applicable to Carpets

03/G09	ASTM D1335
03/G10	ASTM D3936

03/G12	ASTM E648
03/G13	ASTM E662

NVLAP LAB CODE 200404-0

ORIX Rentec EMC Center; Electromagnetic Compatibility

3130, Susugaya, Kiyokawa-Mura
Aiko-Gun, Kanagawa 243-0112
JAPAN
Contact: Mr. Katsuo Terai
Phone: 81-462-88-2971
Fax: 81-462-88-2961
E-Mail: k-terai@rentec.orix.co.jp
URL: http://www.orixrentec.co.jp/emc/

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: June 30, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS22	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

NVLAP LAB CODE 200407-0

Shanghai Testing & Inspection Institute for Electrical Equipment

505 Wu Ning Road
Shanghai 200063
CHINA
Contact: Mr. Chen Wei Hua
Phone: 86-21-62577704
Fax: 86-21-62577704
E-Mail: chenweihua@online.sh.cn

Efficiency of Electric Motors

Accreditation Valid Through: June 30, 2002

NVLAP Code	*Designation*
24/M01	IEEE 112, Method B

NVLAP LAB CODE 200409-0

Philips Testing Service

One Philips Drive, P.O. Box 14810
Knoxville, TN 37914-1810
Contact: Mr. Fred A. Fisher
Phone: 865-521-4720
Fax: 865-521-4786
E-Mail: fred.fisher@philips.com
URL: http://www.philipstesting.com

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: June 30, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

NVLAP LAB CODE 200413-0

JMR Compliance Engineering

20400 Plummer Street
Chatsworth, CA 91311
Contact: Mr. Leon Kogan
Phone: 818-739-1122
Fax: 818-993-9173
E-Mail: leonk@jmr.com
URL: http://www.jmr.com

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: March 31, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS22	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

NVLAP LAB CODE 200415-0

INEEL Materials Testing Lab CFA 602

BBWI CFA602 MS 4136
P.O. Box 1625
Idaho Falls, ID 83415-4136
Contact: Mr. H. Craig Bean
Phone: 208-526-9941
Fax: 208-526-6673
E-Mail: xhb@inel.gov

Construction Materials Testing

Accreditation Valid Through: September 30, 2002

NVLAP Code	*Designation*
Aggregates	
02/A07	ASTM C117
02/A09	ASTM C127
02/A10	ASTM C128
02/A12	ASTM C136
02/A44	ASTM C566
Concrete	
02/A01	ASTM C39
02/A02	ASTM C617
02/A41	ASTM C192
02/A43	ASTM C1064
02/G01	ASTM C31/C172/C143/C138/C231
Soil and Rock	
02/L02	ASTM D422
02/L04	ASTM D698
02/L05	ASTM D854
02/L06	ASTM D1140
02/L08	ASTM D1557
02/L13	ASTM D2216
02/L16	ASTM D2487
02/L20	ASTM D4318
02/L23	ASTM D2922
02/L25	ASTM D3017
Standard Practices	
02/A38	ASTM E329
Steel Materials	
02/S01	ASTM A370 (Sec. 5-13)/E8

NVLAP LAB CODE 200416-0

COACT Inc. CAFE Laboratory

9140 Guilford Road, Suite L
Columbia, MD 21046
Contact: Mr. James McGeHee
Phone: 301-498-0150
Fax: 301-498-0855
E-Mail: jom@coact.com
URL: http://www.coact.com

Cryptographic Module Testing

Accreditation Valid Through: December 31, 2002

NVLAP Code	*Designation*
17/C01	NIST-CSTT:140-1; National Institute of Standards and Technology-Cryptographic Support Test Tool (CSTT) for the Federal Information Processing Standard 140-1 (FIPS 140-1) "Security Requirements for Cryptographic Modules."
17/C01a	Test Method Group 1: All test methods derived from FIPS 140-1 and specified in the CSTT, except those listed in Group 2 and Group 3.
17/C02	FIPS-Approved Cryptographic Algorithms (see http://csrc.nist.gov/cryptval) as required in FIPS PUB 140-1.

Common Criteria Testing

Accreditation Valid Through: December 31, 2002

NVLAP Code	*Designation*
26/A01	ISO/IEC 15408: Info. Tech. - Security Techniques - Eval. Criteria for IT Security; Common Eval. Methodology for Info. Tech. Security, Part 1; Common Methodology for Info. Tech. Security Evaluation, Part 2
26/A01a	APE: Protection Profile evaluation
26/A01b	ASE: Security Target evaluation
26/A01c	EAL1: Evaluation assurance level 1
26/A01d	EAL2: Evaluation assurance level 2
26/A01e	EAL3: Evaluation assurance level 3
26/A01f	EAL4: Evaluation assurance level 4

NVLAP LAB CODE 200418-0

IBM Endicott EMC Lab

P.O. Box 5825, Union Station
Endicott, NY 13763-5825
Contact: Mr. David L. Fay
Phone: 607-741-8972
Fax: 607-741-8988
E-Mail: fay@us.ibm.com

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: December 31, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz

12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

NVLAP LAB CODE 200422-0

Dayton T. Brown, Inc.

Church Street
Bohemia, NY 11716
Contact: Mr. Charles Gortakowski
Phone: 631-244-6315
Fax: 631-589-4046
E-Mail: c.gortakowski@daytontbrown.com
URL: http://www.daytontbrown.com

Electromagnetic Compatibility & Telecommunications
Accreditation Valid Through: December 31, 2002

NVLAP Code	*Designation*
MIL-STD-462 : Conducted Emissions:	
12/A01	MIL-STD-462 Method CE01
12/A04	MIL-STD-462 Method CE02
12/A06	MIL-STD-462 Method CE03
12/A08	MIL-STD-462 Method CE04
12/A10	MIL-STD-462 Method CE06
12/A12	MIL-STD-462 Method CE07
12/A13	MIL-STD-462 Version D Method CE101
12/A14	MIL-STD-462 Version D Method CE102
12/A15	MIL-STD-462 Version D Method CE106
12/A16	MIL-STD-461 Version E Method CE101
12/A17	MIL-STD-461 Version E Method CE102
12/A18	MIL-STD-461 Version E Method CE106
MIL-STD-462 : Conducted Susceptibility:	
12/B01	MIL-STD-462 Method CS01
12/B02	MIL-STD-462 Method CS02
12/B04	MIL-STD-462 Method CS03/CS04/CS05/CS08
12/B05	MIL-STD-462 Method CS06
12/B06	MIL-STD-462 Method CS07
12/B07	MIL-STD-462 Method CS09
12/B08	MIL-STD-462 Method CS10
12/B09	MIL-STD-462 Method CS11
12/B10	MIL-STD-462 Method CS12
12/B11	MIL-STD-462 Method CS13
12/B12	MIL-STD-462 Version D Method CS101
12/B13	MIL-STD-462 Version D Method CS103
12/B14	MIL-STD-462 Version D Method CS104
12/B15	MIL-STD-462 Version D Method CS105
12/B16	MIL-STD-462 Version D Method CS109
12/B19	MIL-STD-462 Version D Method CS116
12/B20	MIL-STD-461 Version E Method CS101
12/B21	MIL-STD-461 Version E Method CS103
12/B22	MIL-STD-461 Version E Method CS104
12/B23	MIL-STD-461 Version E Method CS105
12/B24	MIL-STD-461 Version E Method CS109
12/B27	MIL-STD-461 Version E Method CS116
MIL-STD-462 : Radiated Emissions:	
12/D01	MIL-STD-462 Method RE01
12/D02	MIL-STD-462 Method RE02
12/D03	MIL-STD-462 Method RE03
12/D04	MIL-STD-462 Version D Method RE101
12/D05	MIL-STD-462 Version D Method RE102
12/D06	MIL-STD-462 Version D Method RE103
12/D08	MIL-STD-461 Version E Method RE102
12/D09	MIL-STD-461 Version E Method RE103
MIL-STD-462 : Radiated Susceptibility:	
12/E01	MIL-STD-462 Method RS01
12/E02	MIL-STD-462 Method RS02
12/E03	MIL-STD-462 Method RS03 (Consult laboratory for field strengths available)
12/E04	MIL-STD-462 Method RS03 employing RADHAZ procedures for high level testing (Consult laboratory for field strengths available)
12/E05	MIL-STD-462 Method RS05
12/E07	MIL-STD-462 Method RS06
12/E08	MIL-STD-462 Version D Method RS101
12/E09	MIL-STD-462 Version D Method RS103
12/E10	MIL-STD-462 Version D Method RS105
12/E11	MIL-STD-461 Version E Method RS101
12/E12	MIL-STD-461 Version E Method RS103
12/E13	MIL-STD-461 Version E Method RS105

NVLAP LAB CODE 200424-0

Environmental Science Services, Inc.

12875 East Locke Road
Lockeford, CA 95237
Contact: Mr. Mike Ostlund
Phone: 209-333-6157
Fax: 209-333-0492
E-Mail: envss1@aol.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: September 30, 2002

NVLAP LAB CODE 200425-0

BAE Systems

95 Canal Street, P.O. Box 868
Nashua, NH 03061-0868
Contact: Mr. James A. Cirillo
Phone: 603-885-2671
Fax: 603-885-2919
E-Mail: james.a.cirillo@baesystems.com

Electromagnetic Compatibility & Telecommunications
Accreditation Valid Through: December 31, 2002

NVLAP Code	*Designation*
MIL-STD-462 : Conducted Susceptibility:	
12/B01	MIL-STD-462 Method CS01
12/B02	MIL-STD-462 Method CS02
12/B04	MIL-STD-462 Method CS03/CS04/CS05/CS08
12/B05	MIL-STD-462 Method CS06
12/B07	MIL-STD-462 Method CS09
12/B09	MIL-STD-462 Method CS11
12/B12	MIL-STD-462 Version D Method CS101
12/B13	MIL-STD-462 Version D Method CS103
12/B14	MIL-STD-462 Version D Method CS104
12/B15	MIL-STD-462 Version D Method CS105
12/B16	MIL-STD-462 Version D Method CS109
12/B17	MIL-STD-462 Version D Method CS114

(See 'How To Use This Directory' on page 7.)

12/B18	MIL-STD-462 Version D Method CS115
12/B19	MIL-STD-462 Version D Method CS116
12/B20	MIL-STD-461 Version E Method CS101
12/B21	MIL-STD-461 Version E Method CS103
12/B22	MIL-STD-461 Version E Method CS104
12/B23	MIL-STD-461 Version E Method CS105
12/B24	MIL-STD-461 Version E Method CS109
12/B25	MIL-STD-461 Version E Method CS114
12/B26	MIL-STD-461 Version E Method CS115
12/B27	MIL-STD-461 Version E Method CS116
MIL-STD-462 : Radiated Emissions:	
12/D01	MIL-STD-462 Method RE01
12/D02	MIL-STD-462 Method RE02
12/D04	MIL-STD-462 Version D Method RE101
12/D05	MIL-STD-462 Version D Method RE102
12/D07	MIL-STD-461 Version E Method RE101
12/D08	MIL-STD-461 Version E Method RE102
MIL-STD-462 : Radiated Susceptibility:	
12/E01	MIL-STD-462 Method RS01
12/E02	MIL-STD-462 Method RS02
12/E03	MIL-STD-462 Method RS03 (Consult laboratory for field strengths available)
12/E07	MIL-STD-462 Method RS06
12/E08	MIL-STD-462 Version D Method RS101
12/E09	MIL-STD-462 Version D Method RS103
12/E11	MIL-STD-461 Version E Method RS101
12/E12	MIL-STD-461 Version E Method RS103

NVLAP LAB CODE 200426-0

Computer Sciences Corporation

132 National Business Pkwy.
Annapolis Junction, MD 20701
Contact: Mr. James Fink
Phone: 240-456-6227
Fax: 240-456-4539
E-Mail: jfink5@csc.com
URL: http://www.csc.com

Common Criteria Testing

Accreditation Valid Through: September 30, 2002

NVLAP Code	*Designation*
26/A01	ISO/IEC 15408: Info. Tech. - Security Techniques - Eval. Criteria for IT Security; Common Eval. Methodology for Info. Tech. Security, Part 1; Common Methodology for Info. Tech. Security Evaluation, Part 2
26/A01a	APE: Protection Profile evaluation
26/A01b	ASE: Security Target evaluation
26/A01c	EAL1: Evaluation assurance level 1
26/A01d	EAL2: Evaluation assurance level 2
26/A01e	EAL3: Evaluation assurance level 3
26/A01f	EAL4: Evaluation assurance level 4

NVLAP LAB CODE 200427-0

SAIC Accredited Lab Center for Evaluation & Testing (SALCET)

Ctr. for Information Security Tech. SAIC
7125 Columbia Gateway Drive, Suite 300
Columbia, MD 21046
Contact: Mr. Robert L. Williamson
Phone: 410-953-6819
Fax: 410-953-7001
E-Mail: robert.l.williamson.jr@saic.com
URL: http://www.saic.com/securebiz/cctl.html

Common Criteria Testing

Accreditation Valid Through: September 30, 2002

NVLAP Code	*Designation*
26/A01	ISO/IEC 15408: Info. Tech. - Security Techniques - Eval. Criteria for IT Security; Common Eval. Methodology for Info. Tech. Security, Part 1; Common Methodology for Info. Tech. Security Evaluation, Part 2
26/A01a	APE: Protection Profile evaluation
26/A01b	ASE: Security Target evaluation
26/A01c	EAL1: Evaluation assurance level 1
26/A01d	EAL2: Evaluation assurance level 2
26/A01e	EAL3: Evaluation assurance level 3
26/A01f	EAL4: Evaluation assurance level 4

NVLAP LAB CODE 200428-0

TUViT, IT Security Laboratory

4412 Spicewood Springs Road, #801
Austin, TX 78759
Contact: Mr. Roland Mueller
Phone: 512-795-0494
Fax: 512-795-0495
E-Mail: roland@seculab.com
URL: http://www.seculab.com

Common Criteria Testing

Accreditation Valid Through: September 30, 2002

NVLAP Code	*Designation*
26/A01	ISO/IEC 15408: Info. Tech. - Security Techniques - Eval. Criteria for IT Security; Common Eval. Methodology for Info. Tech. Security, Part 1; Common Methodology for Info. Tech. Security Evaluation, Part 2
26/A01a	APE: Protection Profile evaluation
26/A01b	ASE: Security Target evaluation
26/A01c	EAL1: Evaluation assurance level 1
26/A01d	EAL2: Evaluation assurance level 2
26/A01e	EAL3: Evaluation assurance level 3
26/A01f	EAL4: Evaluation assurance level 4

NVLAP LAB CODE 200429-0

Arca Systems SEAL Common Criteria Testing Laboratory

10220 Old Columbia Road, Suite G-H
Columbia, MD 21046-2366
Contact: Mr. Michael Weidner
Phone: 410-309-1780
Fax: 410-309-1781
E-Mail: mike.weidner@exodus.net
URL: http://www.arca.com

Common Criteria Testing

Accreditation Valid Through: September 30, 2002

NVLAP Code	*Designation*
26/A01	ISO/IEC 15408: Info. Tech. - Security Techniques - Eval. Criteria for IT Security; Common Eval. Methodology for Info. Tech. Security, Part 1; Common Methodology for Info. Tech. Security Evaluation, Part 2
26/A01a	APE: Protection Profile evaluation
26/A01b	ASE: Security Target evaluation
26/A01c	EAL1: Evaluation assurance level 1
26/A01d	EAL2: Evaluation assurance level 2
26/A01e	EAL3: Evaluation assurance level 3
26/A01f	EAL4: Evaluation assurance level 4

NVLAP LAB CODE 200430-0

TDK RF Solutions Inc.

1101 Cypress Creek Road
Cedar Park, TX 78613
Contact: Mr. Michael E. Hill, NCE
Phone: 512-258-9478 x135
Fax: 512-258-0740
E-Mail: mhill@tdkrf.com
URL: http://www.tdkrfsolutions.com

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: December 31, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

NVLAP LAB CODE 200431-0

Raytheon Electronic Systems,California Engineering EEE Laboratory

2000 E. El Segundo Blvd.
P.O. Box 902, Bldg. E1, M/S J131
El Segundo, CA 90245-0902
Contact: Mr. Ali Bahraman
Phone: 310-647-2660
Fax: 310-647-4582
E-Mail: Abahramana@west.raytheon.com

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: December 31, 2002

NVLAP Code	*Designation*
MIL-STD-462 : Conducted Emissions:	
12/A01	MIL-STD-462 Method CE01
12/A06	MIL-STD-462 Method CE03
12/A10	MIL-STD-462 Method CE06
12/A12	MIL-STD-462 Method CE07
12/A14	MIL-STD-462 Version D Method CE102
12/A17	MIL-STD-461 Version E Method CE102
MIL-STD-462 : Conducted Susceptibility:	
12/B01	MIL-STD-462 Method CS01
12/B02	MIL-STD-462 Method CS02
12/B04	MIL-STD-462 Method CS03/CS04/CS05/CS08
12/B05	MIL-STD-462 Method CS06
12/B09	MIL-STD-462 Method CS11
12/B12	MIL-STD-462 Version D Method CS101
12/B17	MIL-STD-462 Version D Method CS114
12/B18	MIL-STD-462 Version D Method CS115
12/B19	MIL-STD-462 Version D Method CS116
12/B20	MIL-STD-461 Version E Method CS101
12/B25	MIL-STD-461 Version E Method CS114
12/B26	MIL-STD-461 Version E Method CS115
12/B27	MIL-STD-461 Version E Method CS116
MIL-STD-462 : Radiated Emissions:	
12/D05	MIL-STD-462 Version D Method RE102
12/D06	MIL-STD-462 Version D Method RE103
12/D08	MIL-STD-461 Version E Method RE102
12/D09	MIL-STD-461 Version E Method RE103
MIL-STD-462 : Radiated Susceptibility:	
12/E02	MIL-STD-462 Method RS02
12/E03	MIL-STD-462 Method RS03 (Consult laboratory for field strengths available)
12/E07	MIL-STD-462 Method RS06
12/E09	MIL-STD-462 Version D Method RS103
12/E12	MIL-STD-461 Version E Method RS103

NVLAP LAB CODE 200432-0

Sony Kisarazu EMC Test Laboratory

8-4 Shiomi
Kisarazu Chiba 292-0834
JAPAN
Contact: Mr. Akihiro Arihara
Phone: 814-383-72174
Fax: 814-383-72495
E-Mail: akichan@skz.co.jp

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: December 31, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions

NVLAP LAB CODE 200433-0

NEC Kofu, Ltd., EMC Center

1088-3 Ohtsu-cho, Kofu City
Yamanashi 400-0055
JAPAN
Contact: Mr. Shinji Mine
Phone: 81-55-243-4158
Fax: 81-55-243-4229
E-Mail: mine@comc.kofu.nec.co.jp
URL: http://www.nec.co.jp/kofu/emc/emc-a.html

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: December 31, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

NVLAP LAB CODE 200434-0

Minolta Co., Ltd. Toyokawa EMC Lab

2, Higashi-Akatsuchi, Yawata-Cho
Toyokawa, Aichi
JAPAN
Contact: Mr. Yasuhiro Kotera
Phone: 81-533-88-2118
Fax: 81-533-88-5368
E-Mail: koteraya@ngw.minolta.co.jp

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: June 30, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS22	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

NVLAP LAB CODE 200435-0

IBM Poughkeepsie EMC Laboratory

M/S P932
2455 South Road
Poughkeepsie, NY 12601-5400
Contact: Mr. William F. McCarthy
Phone: 845-433-1634
Fax: 845-432-98047
E-Mail: wfmcc@us.ibm.com

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: June 30, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS22	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of

	measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions

NVLAP LAB CODE 200436-0

Global Testing

1433 E. Borchard Avenue
Santa Ana, CA 92705-4414
Contact: Kumar Chaklashiya
Phone: 714-550-6004
Fax: 714-550-9424
E-Mail: kumar@global-testing.com
URL: http://www.global-testing.com

Electromagnetic Compatibility & Telecommunications
Accreditation Valid Through: March 31, 2002

NVLAP Code	*Designation*
Telecommunications Test Methods:	
12/CS03	CS-03
12/T01	Terminal Equipment Network Protection Standards, FCC Method - 47 CFR Part 68 - Analog and Digital
12/T01a	68.302 (Par. c,d,e,f) Environmental simulation; 68.304 Leakage current limit.; 68.306 Hazardous voltage limit.; 68.308 Signal power limit.; 68.310 Longitudinal balance limit.; 68.312 On-hook impedance limit.; 68.314 Billing protection
12/T01b	68.316 Hearing Aid Compatibility: technical standards

NVLAP LAB CODE 200438-0

Benesol Corp.

14-15, Miyashimo, 3-Chome
Sagamihara-shi, Kanagawa
JAPAN
Contact: Mr. Yukio Yamamoto
Phone: 042-772-7947
Fax: 042-772-7843

URL: http://www.benesol.co.jp

Electromagnetic Compatibility & Telecommunications
Accreditation Valid Through: March 31, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions

NVLAP LAB CODE 200441-0

A-Pex International Co., Ltd. Yamakita Laboratory

907 Kawanishi, Yamakita-machi,
Ashigarakami-gun Kanagawa-ken 258-0124
JAPAN
Contact: Mr. Osamy Watatani
Phone: 81-465-77-1011
Fax: 81-465-77-2112
E-Mail: watatni@a-pex.co.jp
URL: http://www.a-pex.co.jp

Electromagnetic Compatibility & Telecommunications
Accreditation Valid Through: December 31, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS14	CISPR 14-1 (March 30, 2000): Limits and methods of measurement of radio interference characteristics of household electrical appliances, portable tools and similar electrical apparatus - Part 1: Emissions
12/CIS14a	EN 55014-1 (1993) with Amendments A1 (1997) & A2 (1999)
12/CIS14b	AS/NZS 1044 (1995)
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

NVLAP LAB CODE 200442-0

KSL

505-1 S. Hwy. 49, #101
Jackson, CA 95642
Contact: Mr. Kevin Smith
Phone: 209-286-1822
Fax: 209-286-0706
E-Mail: kevinksl@earthlink.net

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: September 30, 2002

Airborne Asbestos Analysis (TEM)
Accreditation Valid Through: September 30, 2002

NVLAP LAB CODE 200444-0

AMEC Earth & Environmental, Inc., PLM LAB

3232 West Virginia
Phoenix, AZ 85009-1502
Contact: Mr. Paul W. Barbera
Phone: 602-272-6848
Fax: 602-272-7239
E-Mail: paul.barbera@amec.com

Bulk Asbestos Analysis (PLM)

Accreditation Valid Through: December 31, 2002

NVLAP LAB CODE 200445-0

MET Laboratories Incorporated

33439 Western Avenue
Union City, CA 94587
Contact: Mr. Robert Frier
Phone: 510-489-6300
Fax: 510-489-6372
E-Mail: rfrier@metlabs.com
URL: http://www.metlabs.com

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: December 31, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS14	CISPR 14-1 (March 30, 2000): Limits and methods of measurement of radio interference characteristics of household electrical appliances, portable tools and similar electrical apparatus - Part 1: Emissions
12/CIS14a	EN 55014-1 (1993) with Amendments A1 (1997) & A2 (1999)
12/CIS14b	AS/NZS 1044 (1995)
12/CIS14c	CNS 13783-1
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548
Telecommunications Test Methods:	
12/CS03	CS-03
12/T01	Terminal Equipment Network Protection Standards, FCC Method - 47 CFR Part 68 - Analog and Digital
12/T01a	68.302 (Par. c,d,e,f) Environmental simulation; 68.304 Leakage current limit.; 68.306 Hazardous voltage limit.; 68.308 Signal power limit.; 68.310 Longitudinal balance limit.; 68.312 On-hook impedance limit.; 68.314 Billing protection
12/T01c	68.302 Environmental simulation (Par. a,b)

NVLAP LAB CODE 200447-0

Samsung Electronics EMC Laboratory

416 Maetan Dong, Paldal Gu
Suwon, Kyungki Do
KOREA
Contact: Mr. Taek J. Shin
Phone: 82-331-200-2140
Fax: 82-331-200-2138
E-Mail: tjshin@samsun.co.kr

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: March 31, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS22	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions

NVLAP LAB CODE 200448-0

Family Analytical Laboratory Services, Inc.

3650 Chestnut Place
Denver, CO 80216
Contact: Mr. Mark W. Cooperrider
Phone: 303-296-6022
Fax: 303-292-1451
E-Mail: FamilyEnviro@aol.com

Bulk Asbestos Analysis (PLM)

Accreditation Valid Through: December 31, 2002

NVLAP LAB CODE 200450-0

Strom Environmental

7100 N. Broadway, Bldg. 6, Ste. S
Denver, CO 80221
Contact: Mr. Lars Malmstrom
Phone: 303-487-4533
Fax: 303-487-4534
E-Mail: larso@uswest.net

Bulk Asbestos Analysis (PLM)

Accreditation Valid Through: March 31, 2002

NVLAP LAB CODE 200451-0

MacLean Maynard Laboratory Services

50855 E. Russell Schmidt Blvd.
Chesterfield Township, MI 48051
Contact: Mr. Char Zawadzinski
Phone: 810-949-0471
Fax: 810-949-7940
E-Mail: charz@maynard.maclean-fogg.com

Fasteners & Metals

Accreditation Valid Through: June 30, 2002

NVLAP Code	*Designation*

Chemical Analysis

Optical emission spectrochemical analysis

FA/457	ASTM E415

Dimensional Inspection

Dimensions of fasteners - hexagon and double hexagon (12 point) and spline sockets

FB/1140	ANSI B18.2.1

Dimensions of general purpose fasteners and high-volume machine assembly fasteners

FA/403	ANSI/ASME B18.18.1M
FA/404	ANSI/ASME B18.18.2M
FA/665	ISO 4759-1

Dimensions of special purpose fasteners and fasteners for highly specialized engineered ap

FA/405	ANSI/ASME B18.18.3M
FA/406	ANSI/ASME B18.18.4M

External thread parameters - ISO

FA/390	ISO 1502

External thread parameters - system 21

FA/940	ANSI/ASME B1.2
FB/1173	ANSI/ASME B1.1
FB/1175	ANSI/ASME B1.12

Internal thread parameters - ISO

FA/402	ISO 1502

Internal thread parameters - system 21

FA/391	ANSI/ASME B1.3M
FA/942	ANSI/ASME B1.2
FB/1172	ANSI/ASME B1.1
FB/1174	ANSI/ASME B1.12

Mechanical and Physical Testing and Inspection

Axial tensile strength of full-size threaded fasteners

FA/265	ASTM A370 Sec. A3.2.1.4
FA/266	ASTM F606 Sec. 3.4.1-3.4.3
FA/267	ASTM F606M Sec. 3.4.1-3.4.3
FA/270	ISO 898-1 Sec. 8.2
FA/271	MIL-STD-1312-8
FA/273	SAE J429
FA/530	ASTM E8
FA/578	SAE J1216 Sec. 3.5
FB/1089	SAE J995

Prevailing torque

FA/216	ANSI B18.16.1M
FA/217	IFI-100/107

Rockwell hardness of fasteners

FA/197	ASTM E18
FA/200	ISO 6508
FA/202	SAE J417

Tension testing of machined specimens from externally threaded fasteners

FA/282	ISO 898-1
FA/283	SAE J429

Torque-tension of full-size threaded fasteners

FA/305	ANSI B18.16.2M
FA/306	IFI-101
FA/308	SAE J174

Wedge tensile strength of full-size threaded fasteners

FA/290	ASTM F606 Sec. 3.5
FA/291	ASTM F606M Sec. 3.5
FA/294	ISO 898-1 Sec. 8.5
FA/295	MIL-STD-1312-8
FA/468	SAE J429
FA/469	SAE J1216 Sec. 3.6
FA/510	ASTM E8

Yield strength of full-size externally threaded fasteners

FA/298	ASTM F606 Sec. 3.2.4
FA/299	ASTM A370 Sec. A3.2.1.3(a)
FA/300	ASTM F606M Sec. 3.2.4
FA/885	ISO 6892
FB/1171	SAE J429

Metallography

Decarburization and case depth measurement in fasteners

FA/323	ASTM E1077
FA/329	SAE J419
FA/330	SAE J423
FA/561	ASTM E3
FA/562	ASTM G79
FA/758	SAE J121M
FB/1177	SAE J121M

Macroscopic examination of fasteners by etching

FA/511	ASTM E340

Microscopic examination of fasteners by etching

FA/512	ASTM E407
FB/1178	SAE J422
FB/1179	ASTM E45

Surface discontinuities of externally threaded fasteners

FA/357	ASTM F788/788M
FA/359	ISO 6157-1
FA/361	SAE J123

(See 'How To Use This Directory' on page 7.)

FA/362	SAE J1061

Surface discontinuities of internally threaded fasteners

FA/727	ISO 6157-2
FA/865	ASTM F812/F812M
FB/1176	IFI 533

Nondestructive Inspection

Liquid penetrant inspection of fasteners

FA/371	MIL-STD-6866

NVLAP LAB CODE 200452-0

CA Laboratories, L.L.C.

11800 Industriplex, Suite #5
Baton Rouge, LA 70809
Contact: Mr. Arthur Hernandez
Phone: 225-751-5632
Fax: 225-751-5634

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: December 31, 2002

Airborne Asbestos Analysis (TEM)
Accreditation Valid Through: December 31, 2002

NVLAP LAB CODE 200453-0

PCI Industries Acoustical Testing Laboratories

2824 N. Sylvania Avenue
Fort Worth, TX 76111
Contact: Mr. Mike Beaver
Phone: 817-831-7038
Fax: 817-831-3110
E-Mail: mkebeaver@aol.com

Acoustical Testing Services
Accreditation Valid Through: March 31, 2002

NVLAP Code	*Designation*
08/P10	ANSI S12.31
08/P36	ASTM E477

NVLAP LAB CODE 200455-0

Yamaha EMC Center

200 Minazawa
Tenryu-shi, Shizuoka-ken 431-3422
JAPAN
Contact: Mr. Yoshimi Hirose
Phone: 81-53-460-2376
Fax: 81-53-460-2379
E-Mail: hirose-y@post.yamaha.co.jp

Electromagnetic Compatibility & Telecommunications
Accreditation Valid Through: June 30, 2002

Emissions Test Methods:

NVLAP Code	*Designation*
12/CIS22	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

NVLAP LAB CODE 200456-0

Sony EMCS Saotama TEC EMC Test Laboratory

1300 Tsukakoshi, Sakado-shi
Saitama-ken 350-0209
JAPAN
Contact: Mr. Kazuaki Suda
Phone: 81-49-289-2261
Fax: 81-49-289-2275
E-Mail: suda@bonson.sony.co.jp

Electromagnetic Compatibility & Telecommunications
Accreditation Valid Through: September 30, 2002

Emissions Test Methods:

NVLAP Code	*Designation*
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions

NVLAP LAB CODE 200457-0

Sharp Nara EMC Center, EMI Measurement for ITE

492 Minosho-cho
Yamatokooriyama-shi Nara 639-1186
JAPAN
Contact: Mr. Tetsuji Mori
Phone: 81-743-55-5082
Fax: 81-743-55-4440
E-Mail: mori-t@ns1.nara.sharp.co.jp

Electromagnetic Compatibility & Telecommunications
Accreditation Valid Through: March 31, 2002

Emissions Test Methods:

NVLAP Code	*Designation*
12/CIS22	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment

12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

NVLAP LAB CODE 200458-0

Interocean EMC Technology Corp.

No. 5-2, Lin 1, Tin-Fu Tsun, Lin-Kou
Hsiang
Taipei County 24443
TAIWAN
Contact: Mr. Kent Hsu
Phone: 886-2-26006861
Fax: 886-2-26006859
E-Mail: kent@emchouse.com
URL: http://www.ietc.com.tw

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: March 31, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS22	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

NVLAP LAB CODE 200460-0

IAPMO Testing and Services, L.L.C.

20001 E. Walnut Drive South
Walnut, CA 91789-2825
Contact: Mr. Ken Wijaya
Phone: 909-595-8449 x141
Fax: 909-595-8819
E-Mail: kenwijaya@iapmo.org

Commercial Products Testing

Accreditation Valid Through: March 31, 2002

NVLAP Code	*Designation*
Plumbing	
19/F01	ASME A112.18.1M (Sec. 5.2)
19/F02	ASME A112.18.1M (Sec. 5.14)
19/F03	ASME A112.18.1M (Sec. 6.2)
19/F04	ASME A112.18.1M (Sec. 6.4)
19/F05	ASME A112.18.1M (Sec. 6.5)
19/F06	ASME A112.18.1M (Sec. 6.6)
19/F07	ASME A112.18.1M (Sec. 6.7)
19/F08	ASME A112.18.1M (Sec. 6.8)
19/F09	ASME A112.18.1M (Sec. 5.13)
19/F10	ASME A112.18.1M (Sec. 6.3)
19/M01	ICC/ANSI A117.1 (Sec. 609, 610)
19/M02	ASME/ANSI A112.19.7M (Sec. 5, 7)
19/M03	ASME/ANSI A112.19.8M (Sec. 4, 5)
19/M04	ASTM F446
19/P01	ANSI Z124.1 (Sec. 4, 5, 6)
19/P02	ANSI Z124.2 (Sec. 4, 5, 6)
19/P03	ANSI Z124.3 (Sec. 4, 5, 6)
19/P04	ANSI Z124.4 (Sec. 4, 5)
19/P05	ANSI Z124.4 (Sec. 8) per ASME A112.19.6M (Sec. 7.1)
19/P06	ANSI/IAPMO Z124.6 (Sec. 4, 5, 6)
19/P07	ANSI/IAPMO Z124.8 (Sec. 4, 5)
19/V01	ASME A112.19.2M (Sec. 8.1)
19/V02	ASME A112.19.2M (Sec. 8.2)
19/V03	ASME A112.19.2M (Sec. 8.3)
19/V04	ASME A112.19.2M (Sec. 8.7)
19/V05	ASME A112.19.2M (Sec. 8.6)
19/V06	ASME A112.19.2M (Sec. 8.5)
19/W01	ASME A112.19.6 (Sec. 7.1.2)
19/W02	ASME A112.19.6 (Sec. 7.1.3)
19/W03	ASME A112.19.6 (Sec. 7.1.4)
19/W04	ASME A112.19.6 (Sec. 7.1.5)
19/W05	ASME A112.19.6 (Sec. 7.1.6)
19/W06	ASME A112.19.6 (Sec. 7.1.7)
19/W07	ASME A112.19.6 (Sec. 7.1.8)
19/W08	ASME A112.19.6 (Sec. 7.1.9)

NVLAP LAB CODE 200463-0

McGill AirFlow Corp. Airflow and Acoustical Testing Laboratory

200 East Broadway Avenue, Building 6
Westerville, OH 43081
Contact: Mr. John B. Gierzak
Phone: 614-882-5455 x123
Fax: 614-882-2090
E-Mail: mcgillairfloweng@compuserve.com

Acoustical Testing Services

Accreditation Valid Through: June 30, 2002

NVLAP Code	*Designation*
08/P36	ASTM E477

NVLAP LAB CODE 200467-0

Holmes Environmental, Inc.

1600 East Little Creek Road, Ste. 308
Norfolk, VA 23518-4136
Contact: Ms. Ethel H. Holmes
Phone: 757-587-1164
Fax: 757-587-1352

Bulk Asbestos Analysis (PLM)

Accreditation Valid Through: June 30, 2002

NVLAP LAB CODE 200470-0

Unviersity of Wisconsin Radiation Calibration Laboratory

1300 University Avenue
1530 MSC
Madison, WI 53706
Contact: Mr. Larry A. DeWerd
Phone: 608-262-0376
Fax: 608-262-5012
E-Mail: ladewerd@facstaff.wisc.edu

Ionizing Radiation Dosimetry

Accreditation Valid Through: March 31, 2002

This facility has been evaluated and deemed competent to process the radiation dosimeters listed below employing the Harshaw/Bicron automatic reader model 6600.

This facility is accredited to process the following dosimeters by virtue of actual demonstration of compliance with ANSI HPS N13.11-1993 and ANSI HPS N13.32-1995 through testing.

Harshaw/Bicron 8890 BG (3 TLD100) for ANSI-N13.11 categories I, II, IIIA, IV, VA.

Harshaw/Bicron extremity TLD DXT-RAD in a finger ring holder for ANSI HPS N13.32 (NIST Handbook 150-4, Table 2) categories IIIB, IV, VC.

NVLAP LAB CODE 200472-0

Olympus EMC Laboratory

2951 Ishkawa-cho Hachioji
Tokyo 192-8507
JAPAN
Contact: Mr. Kiyoshi Mori
Phone: 81-426-42-2167
Fax: 81-426-42-2017
E-Mail: ki_mori@ot.olympus.co.jp

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: December 31, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

NVLAP LAB CODE 200473-0

Houston Analytical Laboratory

888 W. Sam Houston Parkway S., Suite 288
P.0. Box 941727
Houston, TX 77094-8727
Contact: Mr. Brett S. Colbert
Phone: 832-252-7640
Fax: 832-252-7641
E-Mail: hal2000@ev1.net

Bulk Asbestos Analysis (PLM)

Accreditation Valid Through: March 31, 2002

NVLAP LAB CODE 200474-0

AST International Environmental Consultants Inc.

3705 South Cordoba Street
Spring Valley, CA 91977-1819
Contact: Mr. John A. Lopez
Phone: 619-660-2838
Fax: 619-660-2845
E-Mail: ASTInt@aol.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: June 30, 2002

NVLAP LAB CODE 200475-0

Howard Leight Acoustical Testing Laboratory

7828 Waterville Road
San Diego, CA 92154
Contact: Dr. Vernon D. Larson
Phone: 619-671-1357
Fax: 619-661-8393
E-Mail: vlarson@howardleight.com

Acoustical Testing Services
Accreditation Valid Through: June 30, 2002

NVLAP Code	*Designation*
08/P26	ANSI S3.19 (ANSI S3.19-1974)
08/P27	ANSI S12.6

NVLAP LAB CODE 200476-0

Teco Industry (Malaysia) SDN. BHD.

2600 Jalan Perusahaan Baru
Kawasan Perindustrial Prai 13600 Prai
Penang
MALAYSIA
Contact: Mr. Lim Boon Pin
Phone: 60-04-3909908
Fax: 60-04-3909901
E-Mail: teco@tm.net.my

Efficiency of Electric Motors
Accreditation Valid Through: June 30, 2002

NVLAP Code	*Designation*
24/M01	IEEE 112, Method B

NVLAP LAB CODE 200477-0

Advantest Analysis Laboratory Ltd. EMC Center

336-1 Ohwa Meiwa-Machi, Ohra-gun
Gunma 370-0718
JAPAN
Contact: Mr. Shinichi Kouya
Phone: 81-276-70-3300
Fax: 81-276-70-3420
E-Mail: kouya@aal.advantest.co.jp

Electromagnetic Compatibility & Telecommunications
Accreditation Valid Through: June 30, 2002

Emissions Test Methods:

NVLAP Code	*Designation*
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

NVLAP LAB CODE 200478-0

Canon D5 RF Anechoic Chamber; FCC Part 15; CISPR 22/AS/NZS 3548

7-5-1 Hakusan Toride
Ibaraki 302-8501
JAPAN
Contact: Mr. Keiji Tsukamoto
Phone: 81-45-323-6855
Fax: 81-45-323-6857
E-Mail: todct@bl.mmtr.or.jp

Electromagnetic Compatibility & Telecommunications
Accreditation Valid Through: September 30, 2002

Emissions Test Methods:

NVLAP Code	*Designation*
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions

NVLAP LAB CODE 200479-0

Auditory Systems Laboratory, ISE Department, Virginia Tech

Virginia Tech
250 Durham Hall
Blacksburg, VA 24061
Contact: Dr. John G. Casali
Phone: 540-231-9081
Fax: 540-231-3322
E-Mail: jcasali@vt.edu

Acoustical Testing Services
Accreditation Valid Through: June 30, 2002

NVLAP Code	*Designation*
08/P26	ANSI S3.19 (ANSI S3.19-1974)
08/P27	ANSI S12.6

NVLAP LAB CODE 200480-0

Lighting Research Center Lighting Products

21 Union Street
Troy, NY 12180-3352
Contact: Mr. Conan O'Rourke
Phone: 518-687-7182
Fax: 518-687-7120
E-Mail: orourc@rpi.edu

Energy Efficient Lighting Products
Accreditation Valid Through: September 30, 2002

NVLAP Code	*Designation*
Color Measurements	
22/C01	IES LM-58
Electrical Measurements	
22/E01	IES LM-9
22/E02	IES LM-45
22/E04	IES LM-66
Photometric Measurements	
22/P01a	IES LM-9 (Total Flux)
22/P03a	IES LM-45 (Total Flux)
22/P05a	IES LM-66 (Total Flux)

NVLAP LAB CODE 200481-0

EMSL Analytical Inc. Mobile Laboratory

107 Haddon Avenue
Westmont, NJ 08108-2799
Contact: Mr. Robert DeMalo
Phone: 856-858-4800
Fax: 856-858-1292
E-Mail: rdemalo@EMSL.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: June 30, 2002

Airborne Asbestos Analysis (TEM)
Accreditation Valid Through: June 30, 2002

NVLAP LAB CODE 200482-0

Syonan Site Testing Laboratory as Conducted & Radiated Emissions

1-1 Koyato 2-chome, Samukawa-machi
Koza-gun
Kanagawa 253-0103
JAPAN
Contact: Mr. Norihiro Muraoka
Phone: 81-467-75-9001
Fax: 81-467-75-9005
E-Mail: te-soumy@toyocom.co.jp
URL: http://www.te-emc.com

Electromagnetic Compatibility & Telecommunications
Accreditation Valid Through: September 30, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

NVLAP LAB CODE 200483-0

Regal Beloit Motor Technologies Group - Grafton Engineering Lab

2100 Washington Street
Grafton, WI 53024-9541
Contact: Mr. Tony Hamdan
Phone: 262-387-5393
Fax: 262-377-9025
E-Mail: hamdanto@leeson.com

Efficiency of Electric Motors
Accreditation Valid Through: September 30, 2002

NVLAP Code	*Designation*
24/M01	IEEE 112, Method B

NVLAP LAB CODE 200484-0

Best Laboratory

No. 336, Ba Lian Roasd, Sec. 1
Hsi Chih City
Taipei Hsein
TAIWAN
Contact: Mr. Jeff Chiu
Phone: 886-2-2646-2855
Fax: 886-2-2646-2870
E-Mail: jeff@bestlab.com.tw

Electromagnetic Compatibility & Telecommunications
Accreditation Valid Through: December 31, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and

	Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

NVLAP LAB CODE 200488-0

NEC Access Technica, Ltd. EMC Center

557-2 Yokooka, Kanaya-cho, Haibara-gun
Shizuoka-ken 428-0004
JAPAN
Contact: Mr. Hidenori Muramatsu
Phone: 81-537-22-8240
Fax: 81-537-22-8242
E-Mail: muramatsu@ced.snec.nec.co.jp

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: December 31, 2002

Emissions Test Methods:

NVLAP Code	*Designation*
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

NVLAP LAB CODE 200489-0

RMS EMI Laboratory MIL-STD 462C/D

P.O. Box 11337
Bldg. 842, Room A0200
Tucson, AZ 85734-1337
Contact: Mr. R. Michael Carr
Phone: 520-794-5972
Fax: 520-794-9087
E-Mail: rmcarr@west.raytheon.com

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: June 30, 2002

MIL-STD-462 : Conducted Emissions:

NVLAP Code	*Designation*
12/A01	MIL-STD-462 Method CE01
12/A06	MIL-STD-462 Method CE03
12/A10	MIL-STD-462 Method CE06
12/A13	MIL-STD-462 Version D Method CE101
12/A14	MIL-STD-462 Version D Method CE102
12/A15	MIL-STD-462 Version D Method CE106
12/A16	MIL-STD-461 Version E Method CE101
12/A17	MIL-STD-461 Version E Method CE102
12/A18	MIL-STD-461 Version E Method CE106

MIL-STD-462 : Conducted Susceptibility:

12/B01	MIL-STD-462 Method CS01
12/B02	MIL-STD-462 Method CS02
12/B04	MIL-STD-462 Method CS03/CS04/CS05/CS08
12/B05	MIL-STD-462 Method CS06
12/B07	MIL-STD-462 Method CS09
12/B08	MIL-STD-462 Method CS10
12/B09	MIL-STD-462 Method CS11
12/B12	MIL-STD-462 Version D Method CS101
12/B13	MIL-STD-462 Version D Method CS103
12/B14	MIL-STD-462 Version D Method CS104
12/B15	MIL-STD-462 Version D Method CS105
12/B16	MIL-STD-462 Version D Method CS109
12/B17	MIL-STD-462 Version D Method CS114
12/B18	MIL-STD-462 Version D Method CS115
12/B19	MIL-STD-462 Version D Method CS116
12/B20	MIL-STD-461 Version E Method CS101
12/B21	MIL-STD-461 Version E Method CS103
12/B22	MIL-STD-461 Version E Method CS104
12/B23	MIL-STD-461 Version E Method CS105
12/B24	MIL-STD-461 Version E Method CS109
12/B25	MIL-STD-461 Version E Method CS114
12/B26	MIL-STD-461 Version E Method CS115
12/B27	MIL-STD-461 Version E Method CS116

MIL-STD-462 : Radiated Emissions:

12/D01	MIL-STD-462 Method RE01
12/D02	MIL-STD-462 Method RE02
12/D03	MIL-STD-462 Method RE03
12/D04	MIL-STD-462 Version D Method RE101
12/D05	MIL-STD-462 Version D Method RE102
12/D06	MIL-STD-462 Version D Method RE103
12/D07	MIL-STD-461 Version E Method RE101
12/D08	MIL-STD-461 Version E Method RE102
12/D09	MIL-STD-461 Version E Method RE103

MIL-STD-462 : Radiated Susceptibility:

12/E01	MIL-STD-462 Method RS01
12/E02	MIL-STD-462 Method RS02
12/E03	MIL-STD-462 Method RS03 (Consult laboratory for field strengths available)
12/E08	MIL-STD-462 Version D Method RS101
12/E09	MIL-STD-462 Version D Method RS103
12/E11	MIL-STD-461 Version E Method RS101
12/E12	MIL-STD-461 Version E Method RS103

NVLAP LAB CODE 200490-0

Niigata Fuji Xerox Manufacturing Co., Ltd. EMC Group

7546 Yasuda, Kashiwazaki-City
Niigata 945-1398
JAPAN
Contact: Mr. Takayoshi Suda
Phone: 81-257-21-1112
Fax: 81-257-21-1147
E-Mail: takayoshi.suda@nifx.co.jp

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: September 30, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

NVLAP LAB CODE 200492-0

Atlan Laboratories

1340 Old Chain Bridge Road, Suite 401
McLean, VA 22101
Contact: Mr. Edward D. Morris
Phone: 703-748-4551
Fax: 703-748-4552
E-Mail: emorris@atlanlabs.com
URL: http://www.atlanlabs.com

Cryptographic Module Testing

Accreditation Valid Through: December 31, 2002

NVLAP Code	*Designation*
17/C01	NIST-CSTT:140-1; National Institute of Standards and Technology-Cryptographic Support Test Tool (CSTT) for the Federal Information Processing Standard 140-1 (FIPS 140-1) "Security Requirements for Cryptographic Modules."
17/C01a	Test Method Group 1: All test methods derived from FIPS 140-1 and specified in the CSTT, except those listed in Group 2 and Group 3.
17/C01b	Test Method Group 2: Test methods for Physical Security, Level 4 derived from FIPS 140-1 and specified in the CSTT
17/C01c	Test Method Group 3: Test methods for Software Security, Level 4 derived from FIPS 140-1 and specified in the CSTT
17/C02	FIPS-Approved Cryptographic Algorithms (see http://csrc.nist.gov/cryptval) as required in FIPS PUB 140-1.

NVLAP LAB CODE 200497-0

Belgo-Mineira Chemical Laboratory

Av. Getulio Vargas, No 100
35.930-900 Joao Monlevade, M.G.
BRAZIL
Contact: Mr. Jose da Luz de Souza
Phone: 55-31-859-1401
Fax: 55-31-852-6336
E-Mail: jose.luz@belgomineira.com.br

Fasteners & Metals

Accreditation Valid Through: March 31, 2002

NVLAP Code	*Designation*
Chemical Analysis	
Combustion analysis for carbon, sulfur, oxygen, nitrogen, and hydrogen	
FA/455	ASTM E1019
Optical emission spectrochemical analysis	
FA/457	ASTM E415
X-ray fluorescence (XRF) spectrochemical analysis	
FA/461	ASTM E322

NVLAP LAB CODE 200498-0

Mitsubishi Digital Electronics America, Inc. EMC Test Lab

9351 Jeronimo Road
Irvine, CA 92618-1904
Contact: Mr. Kevin J. Clark
Phone: 949-465-6206
Fax: 949-465-6288
E-Mail: kclark@bigscreen.mea.com

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: September 30, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions

NVLAP LAB CODE 200500-0

Harris Corporation GCSD EMI Test Laboratory

P.O. Box 37 Mailstop 9-2801
Melbourne, FL 32902-9739
Contact: Mr. William J. Prosser
Phone: 321-727-4031
Fax: 321-727-4335
E-Mail: wprosser@harris.com

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: March 31, 2002

NVLAP Code	*Designation*
MIL-STD-462 : Conducted Emissions:	
12/A01	MIL-STD-462 Method CE01
12/A06	MIL-STD-462 Method CE03
12/A10	MIL-STD-462 Method CE06
12/A12	MIL-STD-462 Method CE07
12/A13	MIL-STD-462 Version D Method CE101
12/A14	MIL-STD-462 Version D Method CE102
12/A15	MIL-STD-462 Version D Method CE106
12/A16	MIL-STD-461 Version E Method CE101
12/A17	MIL-STD-461 Version E Method CE102
12/A18	MIL-STD-461 Version E Method CE106
MIL-STD-462 : Conducted Susceptibility:	
12/B01	MIL-STD-462 Method CS01
12/B02	MIL-STD-462 Method CS02
12/B04	MIL-STD-462 Method CS03/CS04/CS05/CS08
12/B05	MIL-STD-462 Method CS06
12/B07	MIL-STD-462 Method CS09
12/B08	MIL-STD-462 Method CS10
12/B09	MIL-STD-462 Method CS11
12/B12	MIL-STD-462 Version D Method CS101
12/B13	MIL-STD-462 Version D Method CS103
12/B14	MIL-STD-462 Version D Method CS104
12/B15	MIL-STD-462 Version D Method CS105
12/B16	MIL-STD-462 Version D Method CS109
12/B17	MIL-STD-462 Version D Method CS114
12/B18	MIL-STD-462 Version D Method CS115
12/B19	MIL-STD-462 Version D Method CS116
12/B20	MIL-STD-461 Version E Method CS101
12/B21	MIL-STD-461 Version E Method CS103
12/B22	MIL-STD-461 Version E Method CS104
12/B23	MIL-STD-461 Version E Method CS105
12/B24	MIL-STD-461 Version E Method CS109
12/B25	MIL-STD-461 Version E Method CS114
12/B26	MIL-STD-461 Version E Method CS115
12/B27	MIL-STD-461 Version E Method CS116
MIL-STD-462 : Radiated Emissions:	
12/D01	MIL-STD-462 Method RE01
12/D02	MIL-STD-462 Method RE02
12/D03	MIL-STD-462 Method RE03
12/D04	MIL-STD-462 Version D Method RE101
12/D05	MIL-STD-462 Version D Method RE102
12/D06	MIL-STD-462 Version D Method RE103
12/D07	MIL-STD-461 Version E Method RE101
12/D08	MIL-STD-461 Version E Method RE102
12/D09	MIL-STD-461 Version E Method RE103
MIL-STD-462 : Radiated Susceptibility:	
12/E01	MIL-STD-462 Method RS01
12/E02	MIL-STD-462 Method RS02
12/E03	MIL-STD-462 Method RS03 (Consult laboratory for field strengths available)
12/E05	MIL-STD-462 Method RS05
12/E07	MIL-STD-462 Method RS06
12/E08	MIL-STD-462 Version D Method RS101
12/E09	MIL-STD-462 Version D Method RS103
12/E11	MIL-STD-461 Version E Method RS101
12/E12	MIL-STD-461 Version E Method RS103

NVLAP LAB CODE 200503-0

IBM Shock and Vibration Laboratory

MS P932, Dept 575S, Bldg. 416, Rm 10-10
2455 South Road
Poughkeepsie, NY 12601
Contact: Mr. Budy Notohardjono
Phone: 845-435-1047
Fax: 845-432-9807
E-Mail: budy@us.ibm.com

Commercial Products Testing

Accreditation Valid Through: December 31, 2002

NVLAP Code	*Designation*
Paper and Related Products	
09/H08	Method 5007.1; ASTM D5276; TAPPI T802-OM
09/H19	Method 5019.1;TAPPI T817-OM/A
09/H20	Method 5020.1;TAPPI T817-OM/B,C

NVLAP LAB CODE 200504-0

Litetronics International

4101W 123 Street
Alsip, IL 60803
Contact: Mr. Sandeep Sood
Phone: 708-389-8000
Fax: 708-371-0627
E-Mail: ssood@litetronics.com
URL: http://www.litetronics.com

Energy Efficient Lighting Products

Accreditation Valid Through: December 31, 2002

NVLAP Code	*Designation*
Electrical Measurements	
22/E02	IES LM-45
Photometric Measurements	
22/P02a	IES LM-20 (Total Flux)
22/P03a	IES LM-45 (Total Flux)

NVLAP LAB CODE 200506-0

USEM de Mexico, S.A. de C.V.

Blvd. Carlos Salinas de G. KM 9.5
Apodaca NL 66600
MEXICO
Contact: Mr. Jose Raymundo Leal Lacavex
Phone: 011-52-81-83-89-1356
Fax: 011-52-81-83-89-1360
E-Mail: Raymundo.Leal@usmotors.com

Efficiency of Electric Motors

Accreditation Valid Through: December 31, 2002

NVLAP Code	*Designation*
24/M01	IEEE 112, Method B

NVLAP LAB CODE 200509-0

White Environmental Consultants, Inc.

12750 SW Pacific Hwy., Suite 210
Tigard, OR 97223
Contact: Mr. Travis Hubbard
Phone: 503-968-2533
Fax: 503-968-0523
E-Mail: thubbard@wec-laboratories.com

Bulk Asbestos Analysis (PLM)

Accreditation Valid Through: March 31, 2002

NVLAP LAB CODE 200511-0

Northern Industrial Hygiene, Inc.

215 SW 153rd Street
Burien, WA 98166
Contact: Ms. Crystal Wright
Phone: 206-988-1746
Fax: 206-988-1978
E-Mail: NIHINCLAB@AOL.COM

Bulk Asbestos Analysis (PLM)

Accreditation Valid Through: December 31, 2002

NVLAP LAB CODE 200514-0

Advance Testing Company Inc.

3348 Route 208
Campbell Hall, NY 10916
Contact: Mr. Kevin L. Patton, P.E.
Phone: 845-496-1600
Fax: 845-496-1398

Construction Materials Testing

Accreditation Valid Through: March 31, 2002

NVLAP Code	*Designation*
Aggregates	
02/A03	ASTM C29
02/A04	ASTM C40
02/A05	ASTM C87
02/A06	ASTM C88
02/A07	ASTM C117
02/A08	ASTM C123
02/A09	ASTM C127
02/A10	ASTM C128
02/A11	ASTM C131
02/A12	ASTM C136
02/A13	ASTM C142
02/A15	ASTM D75
02/A16	ASTM D2419
02/A44	ASTM C566
02/A46	ASTM C535
Cement	
02/A17	ASTM C109
02/A23	ASTM C185
02/A28	ASTM C227
02/A30	ASTM C266
02/A31	ASTM C305
02/A34	ASTM C452
02/A51	ASTM C780 (Annex A7)
02/A52	ASTM C1019
Concrete	
02/A01	ASTM C39
02/A02	ASTM C617
02/A40	ASTM C78
02/A41	ASTM C192
02/A43	ASTM C1064
02/A45	ASTM C42
02/G01	ASTM C31/C172/C143/C138/C231
02/G02	ASTM C173

Geotextiles

02/L28	ASTM D4354

Road and Paving Materials

02/M07	ASTM D546
02/M08	ASTM D979
02/M12	ASTM D1559
02/M19	ASTM D2172
02/M24	ASTM D2041
02/M25	ASTM D2726

Soil and Rock

02/L01	ASTM D4220
02/L02	ASTM D422
02/L04	ASTM D698
02/L05	ASTM D854
02/L06	ASTM D1140
02/L07	ASTM D1556
02/L08	ASTM D1557
02/L10	ASTM D1883
02/L13	ASTM D2216
02/L14	ASTM D2217
02/L16	ASTM D2487
02/L17	ASTM D2488
02/L18	ASTM D3080
02/L19	ASTM D4254
02/L20	ASTM D4318
02/L21	ASTM D2434
02/L23	ASTM D2922
02/L24	ASTM D2974
02/L25	ASTM D3017
02/L26	ASTM D4221
02/L27	ASTM D4253
02/L29	Corps of Engineers - Manual EM-1110-2-1906, Appendix VII, Permeability of Fine Grained Soils Using a Triaxial Apparatus
02/L46	ASTM D5084

Standard Practices

02/A38	ASTM E329
02/A39	ASTM C1077
02/A50	ASTM C1093
02/L32	ASTM D3740
02/M26	ASTM D3666

Steel Materials

02/S07	ASTM E709
02/S08	ASTM E165

NVLAP LAB CODE 200515-0

Applied Laboratory Services, LLC

4101 Granby Street, Suite 404
Norfolk, VA 23504
Contact: Mr. Thomas L. Stokes
Phone: 757-623-0777
Fax: 757-623-2785
E-Mail: KRayALS@aol.com

Bulk Asbestos Analysis (PLM)

Accreditation Valid Through: March 31, 2002

NVLAP LAB CODE 200519-0

Oki Engineering Co., Ltd. EMC Honjo Center

1-1 Ojimaminami 4-chome
Honjo-shi, Saitama 367-8686
JAPAN
Contact: Mr. Isao Shibata
Phone: 81-3-5445-2501
Fax: 81-3-5445-2507
E-Mail: shibata587@oki.com
URL: http://www.oeg.co.jp

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: March 31, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS22	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

NVLAP LAB CODE 200520-0

BPB America, Inc.

14255 49th St. N., Suite 305
Clearwater, FL 33762
Contact: Mr. William Gwynn
Phone: 727-563-5237
Fax: 727-563-5218
E-Mail: HGwynn@bpb-celotex.com
URL: http://www.bpb-celotex.com

Acoustical Testing Services

Accreditation Valid Through: December 31, 2002

NVLAP Code	*Designation*
08/P03	ASTM C423
08/P04	ASTM C522
08/P06	ASTM E90
08/P34	ASTM E1414
08/P35	ASTM E1050
08/P49	AMA-1-II-67

NVLAP LAB CODE 200522-0

C.I.M.D. Engr. Dev. Lab
2000 Taylor Street
Fort Wayne, IN 46801
Contact: Mr. Gary George
Phone: 219-439-2007
Fax: 219-439-2429
E-Mail: gary.george@indsys.ge.com

Efficiency of Electric Motors
Accreditation Valid Through: March 31, 2002

NVLAP Code	*Designation*
24/M01	IEEE 112, Method B

NVLAP LAB CODE 200523-0

Fort Polk Environmental Laboratory
1881 23rd Street, Building 2530
Fort Polk, LA 71459-5509
Contact: Ms. Christine Gettys Hull
Phone: 337-531-6084
Fax: 337-531-8950
E-Mail: hullc@polk-emh2.army.mil

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: September 30, 2002

NVLAP LAB CODE 200525-0

J3 Resources, Inc.
5400 Mitchelldale, Suite A9
Houston, TX 77092
Contact: Mr. Lee W. Poye
Phone: 713-290-0221
Fax: 713-290-0248
E-Mail: lpoye@J3Resources.com

Bulk Asbestos Analysis (PLM)
Accreditation Valid Through: March 31, 2002

Airborne Asbestos Analysis (TEM)
Accreditation Valid Through: March 31, 2002

NVLAP LAB CODE 200527-0

Compatible Electronics, Inc.
19121 El Toro Road
Silverado/Lake Forest, CA 92676
Contact: Mr. Jeff Klinger
Phone: 714-579-0500
Fax: 714-579-1850
E-Mail: jklinger@celectronics.com
URL: http://www.celectronics.com

Electromagnetic Compatibility & Telecommunications
Accreditation Valid Through: June 30, 2002

Emissions Test Methods:

NVLAP Code	*Designation*
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

Immunity Test Methods:

12/I01	IEC 61000-4-2 (1995) and Amendment 1 (1998): Electrostatic Discharge Immunity Test
12/I02	IEC 61000-4-3 (1995) and Amendment 1 (1998): Radiated, Radio-Frequency Electromagnetic Field Immunity Test
12/I03	IEC 61000-4-4 (1995): Electrical Fast Transient/Burst Immunity Test
12/I04	IEC 61000-4-5 (1995): Surge Immunity Test
12/I05	IEC 61000-4-6 (1996): Immunity to Conducted Disturbances, Induced Radio-Frequency Fields
12/I06	IEC 61000-4-8 (1993): Power Frequency Magnetic Field Immunity Test
12/I07	IEC 61000-4-11 (1994): Voltage Dips, Short Interruptions and Voltage Variations Immunity Tests

Safety Test Methods:

12/T41	ACA TS-001
12/T50	AS/NZS 3260

NVLAP LAB CODE 200528-0

Compatible Electronics, Inc.
114 Olinda Drive
Brea, CA 92823
Contact: Mr. Jeff Klinger
Phone: 714-579-0500
Fax: 714-579-1850
E-Mail: jklinger@celectronics.com
URL: http://www.celectronics.com

Electromagnetic Compatibility & Telecommunications
Accreditation Valid Through: June 30, 2002

Emissions Test Methods:

NVLAP Code	*Designation*
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of

	measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

Immunity Test Methods:

12/I01	IEC 61000-4-2 (1995) and Amendment 1 (1998): Electrostatic Discharge Immunity Test
12/I02	IEC 61000-4-3 (1995) and Amendment 1 (1998): Radiated, Radio-Frequency Electromagnetic Field Immunity Test
12/I03	IEC 61000-4-4 (1995): Electrical Fast Transient/Burst Immunity Test
12/I04	IEC 61000-4-5 (1995): Surge Immunity Test
12/I05	IEC 61000-4-6 (1996): Immunity to Conducted Disturbances, Induced Radio-Frequency Fields
12/I06	IEC 61000-4-8 (1993): Power Frequency Magnetic Field Immunity Test
12/I07	IEC 61000-4-11 (1994): Voltage Dips, Short Interruptions and Voltage Variations Immunity Tests

Telecommunications Test Methods:

12/CS03	CS-03
12/T01	Terminal Equipment Network Protection Standards, FCC Method - 47 CFR Part 68 - Analog and Digital
12/T01a	68.302 (Par. c,d,e,f) Environmental simulation; 68.304 Leakage current limit.; 68.306 Hazardous voltage limit.; 68.308 Signal power limit.; 68.310 Longitudinal balance limit.; 68.312 On-hook impedance limit.; 68.314 Billing protection
12/T01b	68.316 Hearing Aid Compatibility: technical standards
12/T01c	68.302 Environmental simulation (Par. a,b)

NVLAP LAB CODE 200529-0

Motor Test Lab of Toshiba Industrial Products Manufacturing Corp.

2121 Nao
Asahi-cho Mie-gun Mie-ken 510-8521
JAPAN
Contact: Mr. Hiroaki Nagashima
Phone: 0593-76-6072
Fax: 0593-76-6182
E-Mail: hiroaki1nagashima@toshiba.co.jp

Efficiency of Electric Motors

Accreditation Valid Through: June 30, 2002

NVLAP Code	*Designation*
24/M01	IEEE 112, Method B

NVLAP LAB CODE 200530-0

Paradigm Environmental Services, Inc.

179 Lake Avenue
Rochester, NY 14608
Contact: Mr. Bruce Hoogesteger
Phone: 716-647-2530
Fax: 716-647-3311

Bulk Asbestos Analysis (PLM)

Accreditation Valid Through: June 30, 2002

Airborne Asbestos Analysis (TEM)

Accreditation Valid Through: June 30, 2002

NVLAP LAB CODE 200531-0

Enviroscience Consultants, Inc.

2150 Smithtown Ave.
Ronkonkoma, NY 11779
Contact: Mr. Edward Detweiler
Phone: 631-580-3191
Fax: 631-580-3195
E-Mail: edetweiler@envirohealth.org

Airborne Asbestos Analysis (TEM)

Accreditation Valid Through: June 30, 2002

NVLAP LAB CODE 200533-0

Quitek Corporation

No. 5, Ruei-shu Valley, Ruei-ping, Tsuen
Lin Kou Shiang, Taipei 244
TAIWAN
Contact: Mr. Gene Chang
Phone: 886-2-8601-3788
Fax: 886-2-8601-3789
E-Mail: gene@quietek.com

Electromagnetic Compatibility & Telecommunications
Accreditation Valid Through: June 30, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548
Immunity Test Methods:	
12/I01	IEC 61000-4-2 (1995) and Amendment 1 (1998): Electrostatic Discharge Immunity Test
12/I02	IEC 61000-4-3 (1995) and Amendment 1 (1998): Radiated, Radio-Frequency Electromagnetic Field Immunity Test
12/I03	IEC 61000-4-4 (1995): Electrical Fast Transient/Burst Immunity Test
12/I04	IEC 61000-4-5 (1995): Surge Immunity Test
12/I05	IEC 61000-4-6 (1996): Immunity to Conducted Disturbances, Induced Radio-Frequency Fields
12/I06	IEC 61000-4-8 (1993): Power Frequency Magnetic Field Immunity Test
12/I07	IEC 61000-4-11 (1994): Voltage Dips, Short Interruptions and Voltage Variations Immunity Tests

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NVLAP LAB CODE 200535-0

Underwriters Laboratories Inc.
11825 Niles Canyon Road
Sunol, CA 94586
Contact: Mr. Rick A. Titus
Phone: 847-272-8800 x43281
Fax: 847-509-6321
E-Mail: rick.a.titus@us.ul.com

Electromagnetic Compatibility & Telecommunications
Accreditation Valid Through: December 31, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548
Immunity Test Methods:	
12/I01	IEC 61000-4-2 (1995) and Amendment 1 (1998): Electrostatic Discharge Immunity Test
12/I02	IEC 61000-4-3 (1995) and Amendment 1 (1998): Radiated, Radio-Frequency Electromagnetic Field Immunity Test
12/I03	IEC 61000-4-4 (1995): Electrical Fast Transient/Burst Immunity Test
12/I04	IEC 61000-4-5 (1995): Surge Immunity Test
12/I05	IEC 61000-4-6 (1996): Immunity to Conducted Disturbances, Induced Radio-Frequency Fields
12/I06	IEC 61000-4-8 (1993): Power Frequency Magnetic Field Immunity Test
12/I07	IEC 61000-4-11 (1994): Voltage Dips, Short Interruptions and Voltage Variations Immunity Tests

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NVLAP LAB CODE 200537-0

Baldor Motor Design Lab
5711 R. S. Boreham JR Street
P.O. Box 2400
Fort Smith, AR 72901
Contact: Mr. Ron Lininger
Phone: 501-646-4711
Fax: 501-648-5841

Efficiency of Electric Motors
Accreditation Valid Through: June 30, 2002

NVLAP Code	*Designation*
24/M01	IEEE 112, Method B

NVLAP LAB CODE 200541-0

Globeteck Group, Inc.

544 Ohohia Street, Suite #2
Honolulu, HI 96819
Contact: Mr. Mohammad Rouf
Phone: 808-833-5787
Fax: 808-833-5987
E-Mail: mohammad@poi.net

Bulk Asbestos Analysis (PLM)

Accreditation Valid Through: September 30, 2002

NVLAP LAB CODE 200542-0

Ram Industries Motor Test Laboratory

P.O. Box 629
Leesport, PA 19533
Contact: Mr. Joseph J. Cala
Phone: 610-916-3939
Fax: 610-916-4885
E-Mail: jcala@ramusa.com
URL: http://www.ramusa.com

Efficiency of Electric Motors

Accreditation Valid Through: September 30, 2002

NVLAP Code	*Designation*
24/M01	IEEE 112, Method B

NVLAP LAB CODE 200544-0

Missouri Department of Transportation, Chemical Laboratory

Chemical Laboratory
P.O. Box 270
Jefferson City, MO 65102
Contact: Mr. Ken Fryer
Phone: 573-751-3706
Fax: 573-526-4361
E-Mail: schwah@mail.modot.state.mo.us

Bulk Asbestos Analysis (PLM)

Accreditation Valid Through: September 30, 2002

NVLAP LAB CODE 200546-0

Scientific Laboratories, Inc.

117 E. 30th Street
New York, NY 10016
Contact: Mr. Lance Tuckruskye
Phone: 212-679-8600
Fax: 212-679-2711
E-Mail: ltuckruskye@scilabs.com

Bulk Asbestos Analysis (PLM)

Accreditation Valid Through: June 30, 2002

Airborne Asbestos Analysis (TEM)

Accreditation Valid Through: June 30, 2002

NVLAP LAB CODE 200548-0

Envirocheck, Inc.

7052 Orangewood Ave. #2
Garden Grove, CA 92841
Contact: Mr. Vanc Thomas
Phone: 714-893-8177
Fax: 714-891-3922

Bulk Asbestos Analysis (PLM)

Accreditation Valid Through: December 31, 2002

NVLAP LAB CODE 200549-0

Wave Corporation

Oosawa 575, Yoshii-machi
Tano-gun, Gunma
JAPAN
Contact: Mr. Katsuyuki Arai
Phone: 027-387-7856
Fax: 027-387-7829
E-Mail: katsuyuki.arai@wave-j.com
URL: http://www.wave-j.com

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: December 31, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548

NVLAP LAB CODE 200550-0

Anritsu Customer Services Ltd. EMC Center

1800 Onna, Atsugi-shi
Kanagawa-Prf. 243-0032
JAPAN
Contact: Mr. Hisashi Nakama
Phone: 81-46-296-6744
Fax: 81-46-296-6784
E-Mail: Nakama.hisashi@gg.anritsu.co.jp
URL: http://www.anritsu.co.jp

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: December 31, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548
Immunity Test Methods:	
12/I01	IEC 61000-4-2 (1995) and Amendment 1 (1998): Electrostatic Discharge Immunity Test
12/I02	IEC 61000-4-3 (1995) and Amendment 1 (1998): Radiated, Radio-Frequency Electromagnetic Field Immunity Test
12/I03	IEC 61000-4-4 (1995): Electrical Fast Transient/Burst Immunity Test
12/I04	IEC 61000-4-5 (1995): Surge Immunity Test
12/I05	IEC 61000-4-6 (1996): Immunity to Conducted Disturbances, Induced Radio-Frequency Fields

NVLAP LAB CODE 200552-0

Adirondack Environmental Services Inc.

314 North Pearl Street
Albany, NY 12207-1322
Contact: Mr. Thomas K. Hare
Phone: 518-785-0128
Fax: 518-785-5042

Bulk Asbestos Analysis (PLM)

Accreditation Valid Through: December 31, 2002

Airborne Asbestos Analysis (TEM)

Accreditation Valid Through: December 31, 2002

NVLAP LAB CODE 200553-0

Sony Nagano EMC Test Laboratory

5432 Oaza Toyoshina Toyoshina-machi
Nagano-ken 399-8282
JAPAN
Contact: Mr. Yoshio Takeuchi
Phone: 81-263-72-5696
Fax: 81-263-72-9755
E-Mail: takeuchi@sodp.sony.co.jp

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: December 31, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions

NVLAP LAB CODE 200556-0

EWA - Canada Ltd, IT Security Evaluation Facility

275 Slater Street, Suite 1600
Ottawa Ontario K1P 5H9
CANADA
Contact: Mr. Paul Zatychec
Phone: 613-230-6067 x227
Fax: 613-230-4933
E-Mail: pzatychec@ewa-canada.com

Cryptographic Module Testing

Accreditation Valid Through: December 31, 2002

NVLAP Code	*Designation*
17/C01	NIST-CSTT:140-1; National Institute of Standards and Technology-Cryptographic Support Test Tool (CSTT) for the Federal Information Processing Standard 140-1 (FIPS 140-1) "Security Requirements for Cryptographic Modules."
17/C01a	Test Method Group 1: All test methods derived

	from FIPS 140-1 and specified in the CSTT, except those listed in Group 2 and Group 3.
17/C01b	Test Method Group 2: Test methods for Physical Security, Level 4 derived from FIPS 140-1 and specified in the CSTT
17/C01c	Test Method Group 3: Test methods for Software Security, Level 4 derived from FIPS 140-1 and specified in the CSTT
17/C02	FIPS-Approved Cryptographic Algorithms (see http://csrc.nist.gov/cryptval) as required in FIPS PUB 140-1.

NVLAP LAB CODE 200559-0

Digital EMC., Ltd.

683-2 Yubang-Dong, Yongin-Si
Kyunggi-Do 449-080
KOREA
Contact: Mr. Charlie Park
Phone: 82-31-712-2662
Fax: 82-31-712-1662
E-Mail: charlie@digitalemc.com
URL: http://www.ditigalemc.com

Electromagnetic Compatibility & Telecommunications

Accreditation Valid Through: December 31, 2002

NVLAP Code	*Designation*
Emissions Test Methods:	
12/CIS14	CISPR 14-1 (March 30, 2000): Limits and methods of measurement of radio interference characteristics of household electrical appliances, portable tools and similar electrical apparatus - Part 1: Emissions
12/CIS14a	EN 55014-1 (1993) with Amendments A1 (1997) & A2 (1999)
12/CIS14b	AS/NZS 1044 (1995)
12/CIS14c	CNS 13783-1
12/CIS22	IEC/CISPR 22:1997: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
12/T51	AS/NZS 3548
Immunity Test Methods:	
12/I01	IEC 61000-4-2 (1995) and Amendment 1 (1998): Electrostatic Discharge Immunity Test
12/I03	IEC 61000-4-4 (1995): Electrical Fast Transient/Burst Immunity Test
12/I04	IEC 61000-4-5 (1995): Surge Immunity Test
12/I07	IEC 61000-4-11 (1994): Voltage Dips, Short Interruptions and Voltage Variations Immunity Tests

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NVLAP LAB CODE 200567-0

ASC geoscience, inc.

5811 Corporation Circle
Fort Myers, FL 33905
Contact: Mr. Anu Saxena, P.E.
Phone: 863-644-8300
Fax: 863-644-8203
E-Mail: anu@ascworldnet
URL: http://www.ascworld.net

Construction Materials Testing

Accreditation Valid Through: December 31, 2002

NVLAP Code	*Designation*
Aggregates	
02/A03	ASTM C29
02/A07	ASTM C117
02/A09	ASTM C127
02/A12	ASTM C136
Concrete	
02/A01	ASTM C39
02/A02	ASTM C617
02/A40	ASTM C78
02/A41	ASTM C192
02/A43	ASTM C1064
02/G01	ASTM C31/C172/C143/C138/C231
02/G02	ASTM C173
Road and Paving Materials	
02/M07	ASTM D546
02/M08	ASTM D979
02/M19	ASTM D2172
02/M24	ASTM D2041
02/M25	ASTM D2726
Soil and Rock	
02/L02	ASTM D422
02/L04	ASTM D698
02/L05	ASTM D854
02/L06	ASTM D1140
02/L07	ASTM D1556
02/L08	ASTM D1557
02/L10	ASTM D1883
02/L12	ASTM D2168
02/L13	ASTM D2216
02/L16	ASTM D2487
02/L17	ASTM D2488
02/L20	ASTM D4318
02/L23	ASTM D2922
02/L25	ASTM D3017
Standard Practices	
02/M26	ASTM D3666

INDEX

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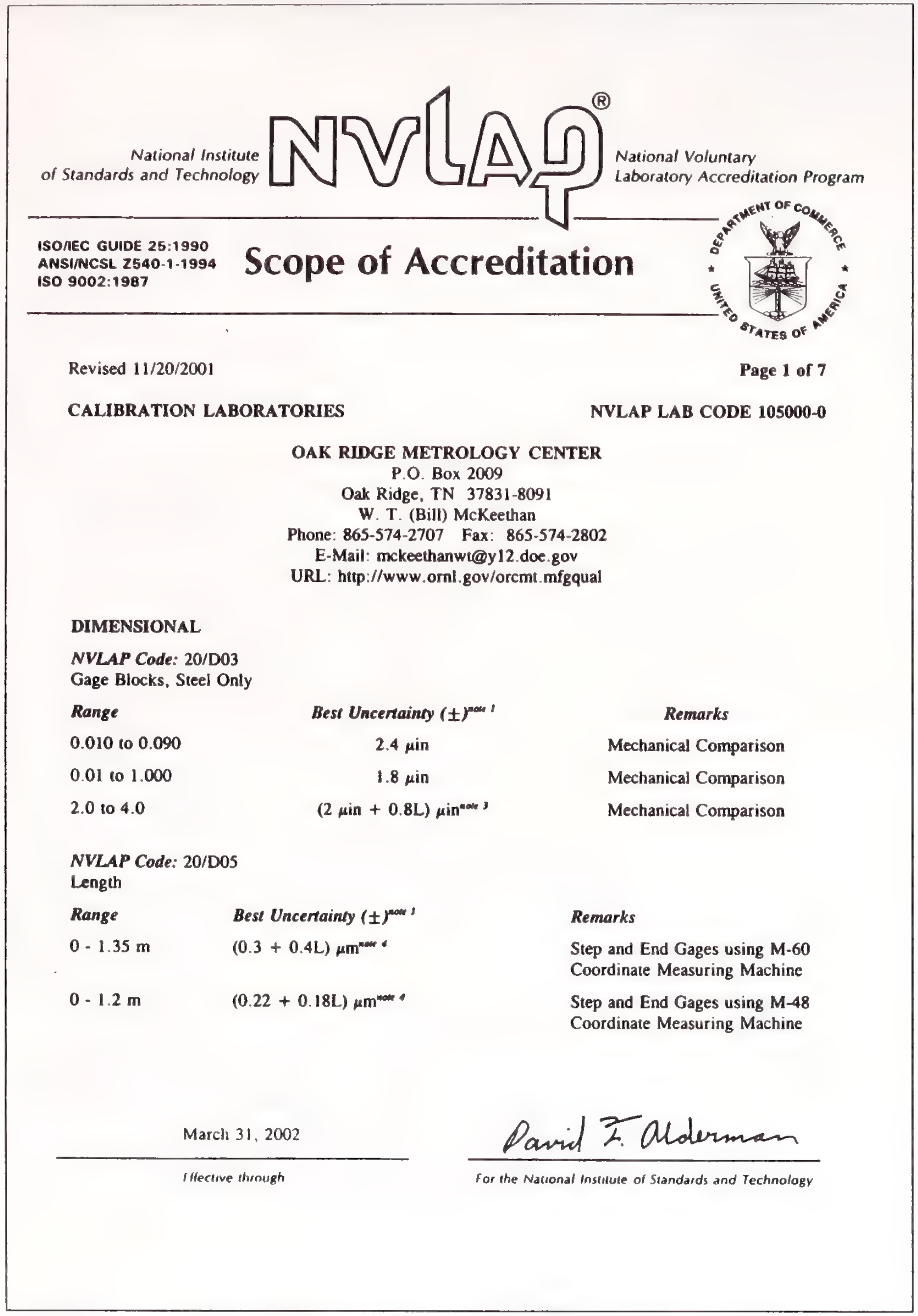
LISTING OF CALIBRATION LABORATORIES BY NVLAP LAB CODE



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CALIBRATION LABORATORIES **NVLAP LAB CODE 105000-0**

OAK RIDGE METROLOGY CENTER
P.O. Box 2009
Oak Ridge, TN 37831-8091
W. T. (Bill) McKeethan
Phone: 865-574-2707 Fax: 865-574-2802
E-Mail: mckeethanwt@y12.doe.gov
URL: http://www.ornl.gov/orcmt.mfgqual

DIMENSIONAL

NVLAP Code: 20/D03
Gage Blocks, Steel Only

Range	***Best Uncertainty*** (±)$^{\text{note 1}}$	***Remarks***
0.010 to 0.090	2.4 μin	Mechanical Comparison
0.01 to 1.000	1.8 μin	Mechanical Comparison
2.0 to 4.0	(2 μin + 0.8L) μin$^{\text{note 3}}$	Mechanical Comparison

NVLAP Code: 20/D05
Length

Range	***Best Uncertainty*** (±)$^{\text{note 1}}$	***Remarks***
0 - 1.35 m	(0.3 + 0.4L) μm$^{\text{note 4}}$	Step and End Gages using M-60 Coordinate Measuring Machine
0 - 1.2 m	(0.22 + 0.18L) μm$^{\text{note 4}}$	Step and End Gages using M-48 Coordinate Measuring Machine

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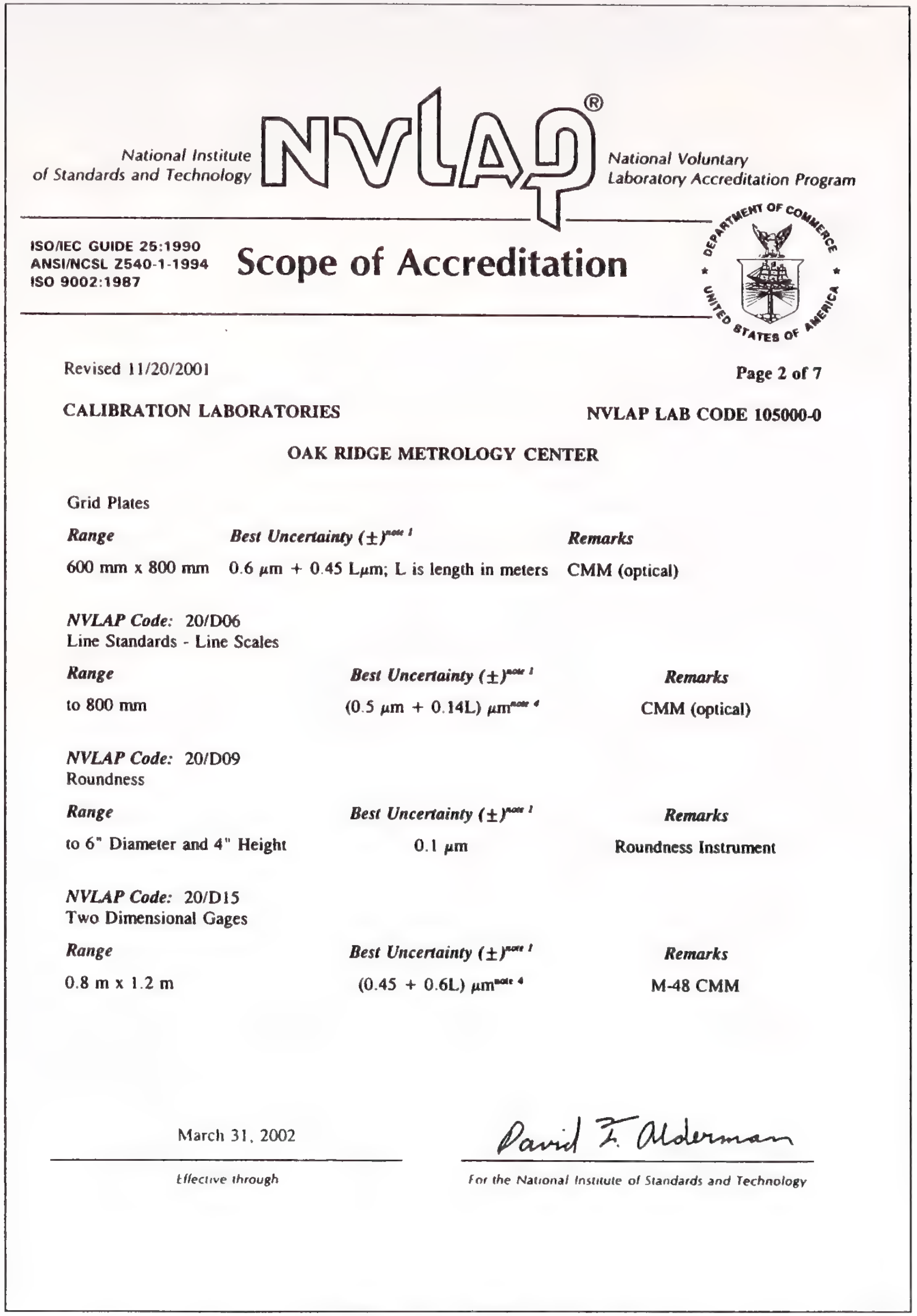

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OAK RIDGE METROLOGY CENTER

Grid Plates

Range	***Best Uncertainty*** (±)$^{\text{note 1}}$	***Remarks***
600 mm x 800 mm	0.6 μm + 0.45 Lμm; L is length in meters	CMM (optical)

NVLAP Code: 20/D06
Line Standards - Line Scales

Range	***Best Uncertainty*** (±)$^{\text{note 1}}$	***Remarks***
to 800 mm	(0.5 μm + 0.14L) μm$^{\text{note 4}}$	CMM (optical)

NVLAP Code: 20/D09
Roundness

Range	***Best Uncertainty*** (±)$^{\text{note 1}}$	***Remarks***
to 6" Diameter and 4" Height	0.1 μm	Roundness Instrument

NVLAP Code: 20/D15
Two Dimensional Gages

Range	***Best Uncertainty*** (±)$^{\text{note 1}}$	***Remarks***
0.8 m x 1.2 m	(0.45 + 0.6L) μm$^{\text{note 4}}$	M-48 CMM

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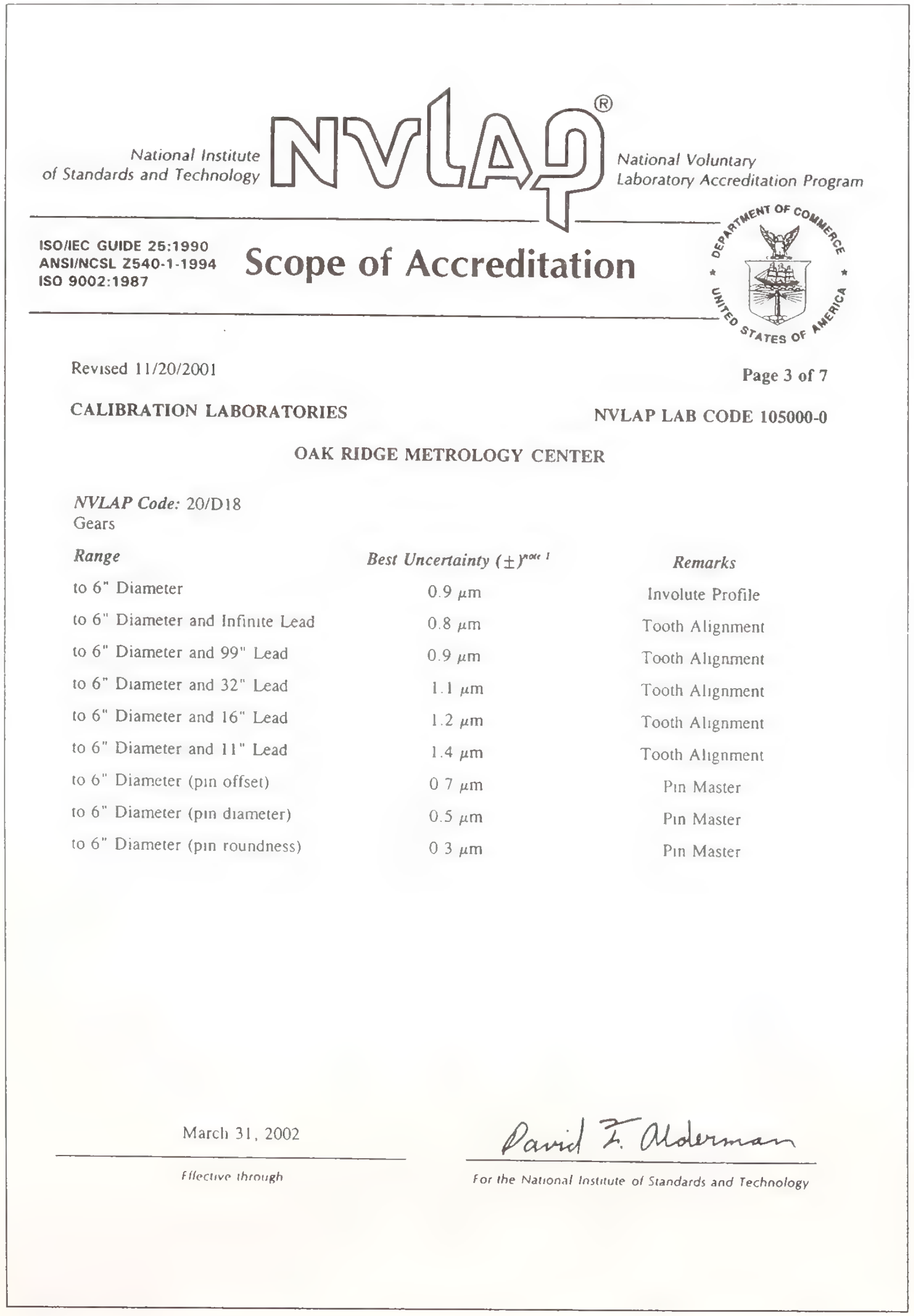

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OAK RIDGE METROLOGY CENTER

NVLAP Code: 20/D18
Gears

Range	*Best Uncertainty* $(\pm)^{\text{note 1}}$	*Remarks*
to 6" Diameter	0.9 µm	Involute Profile
to 6" Diameter and Infinite Lead	0.8 µm	Tooth Alignment
to 6" Diameter and 99" Lead	0.9 µm	Tooth Alignment
to 6" Diameter and 32" Lead	1.1 µm	Tooth Alignment
to 6" Diameter and 16" Lead	1.2 µm	Tooth Alignment
to 6" Diameter and 11" Lead	1.4 µm	Tooth Alignment
to 6" Diameter (pin offset)	0.7 µm	Pin Master
to 6" Diameter (pin diameter)	0.5 µm	Pin Master
to 6" Diameter (pin roundness)	0.3 µm	Pin Master

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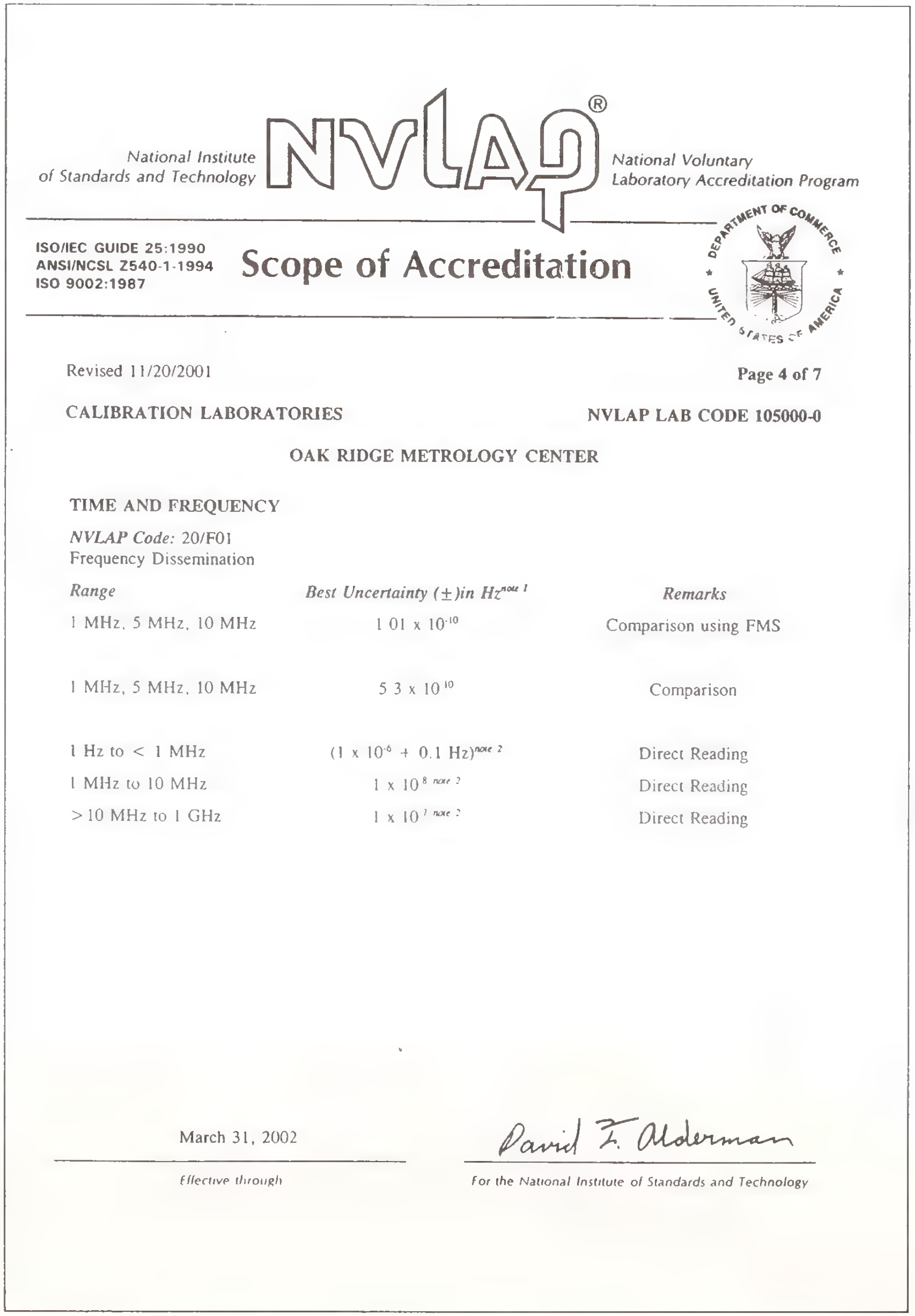

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OAK RIDGE METROLOGY CENTER

TIME AND FREQUENCY

NVLAP Code: 20/F01
Frequency Dissemination

Range	*Best Uncertainty* $(\pm)$*in Hz*$^{\text{note 1}}$	*Remarks*
1 MHz, 5 MHz, 10 MHz	1.01×10^{-10}	Comparison using FMS
1 MHz, 5 MHz, 10 MHz	5.3×10^{10}	Comparison
1 Hz to < 1 MHz	$(1 \times 10^{-6} + 0.1\ \text{Hz})^{\text{note 2}}$	Direct Reading
1 MHz to 10 MHz	$1 \times 10^{8\ \text{note 2}}$	Direct Reading
>10 MHz to 1 GHz	$1 \times 10^{7\ \text{note 2}}$	Direct Reading

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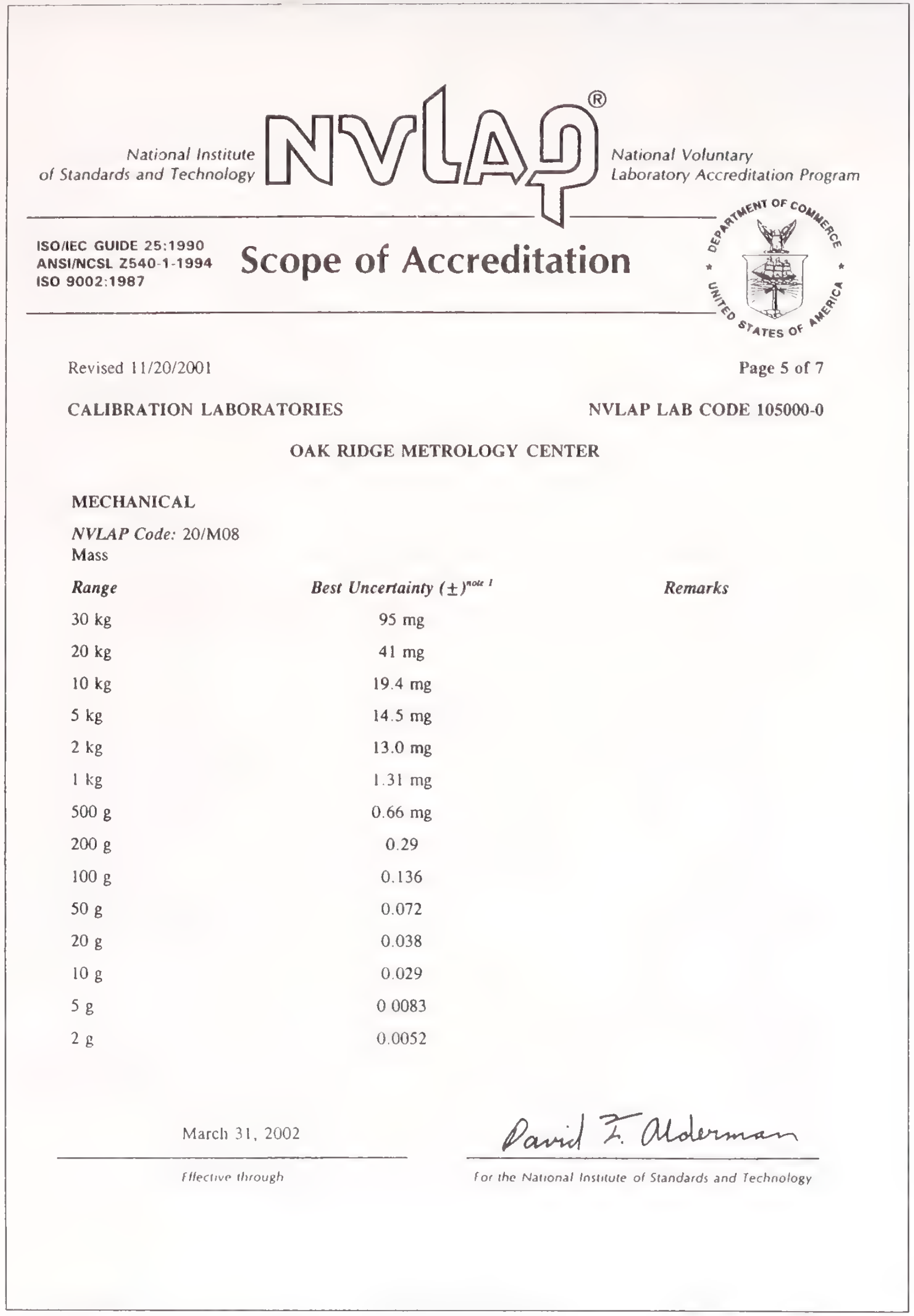

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NVLAP LAB CODE 105000-0

OAK RIDGE METROLOGY CENTER

MECHANICAL

NVLAP Code: 20/M08
Mass

Range	*Best Uncertainty* (±)$^{note\ 1}$	*Remarks*
30 kg	95 mg	
20 kg	41 mg	
10 kg	19.4 mg	
5 kg	14.5 mg	
2 kg	13.0 mg	
1 kg	1.31 mg	
500 g	0.66 mg	
200 g	0.29	
100 g	0.136	
50 g	0.072	
20 g	0.038	
10 g	0.029	
5 g	0.0083	
2 g	0.0052	

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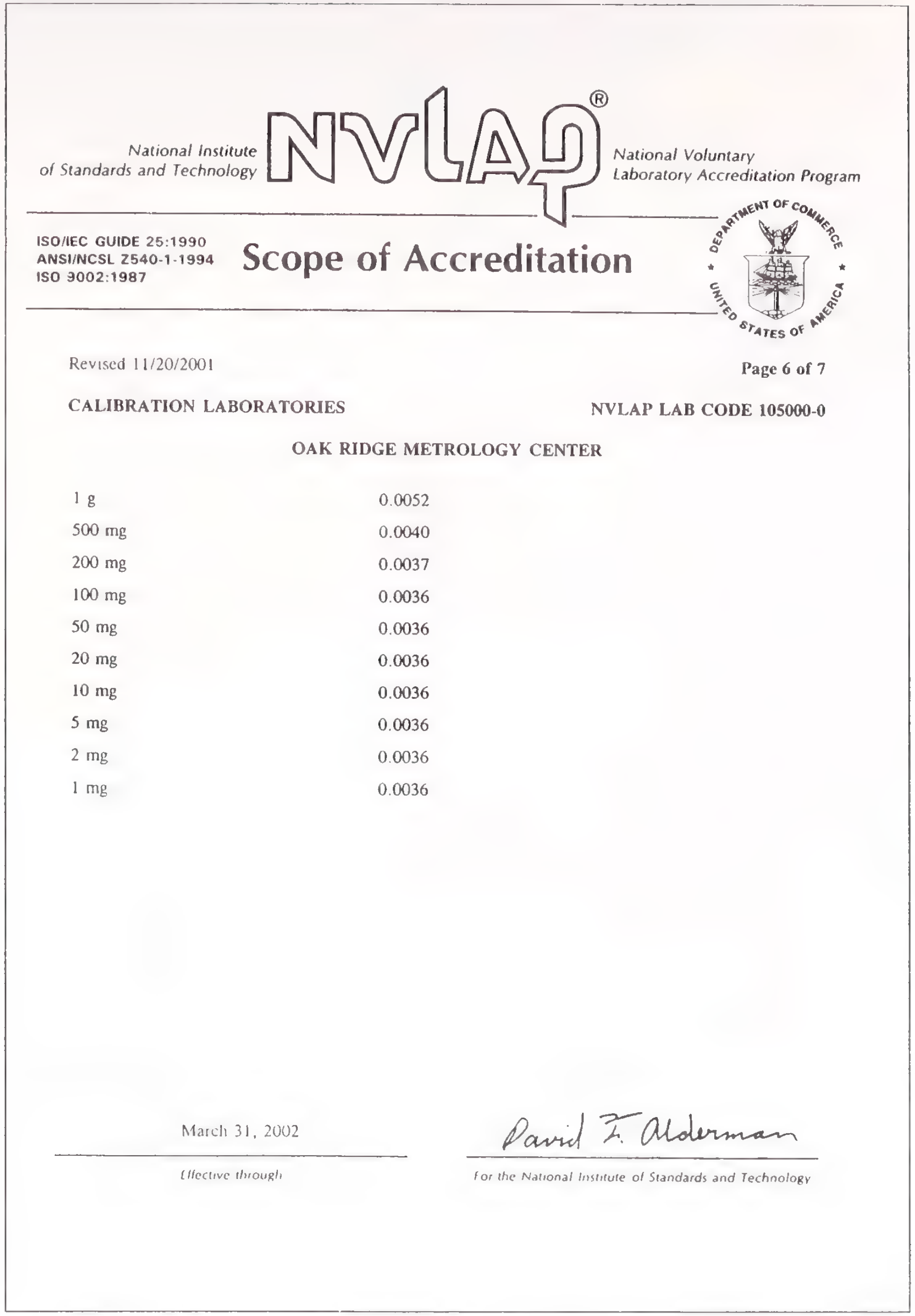

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NVLAP LAB CODE 105000-0

OAK RIDGE METROLOGY CENTER

1 g	0.0052
500 mg	0.0040
200 mg	0.0037
100 mg	0.0036
50 mg	0.0036
20 mg	0.0036
10 mg	0.0036
5 mg	0.0036
2 mg	0.0036
1 mg	0.0036

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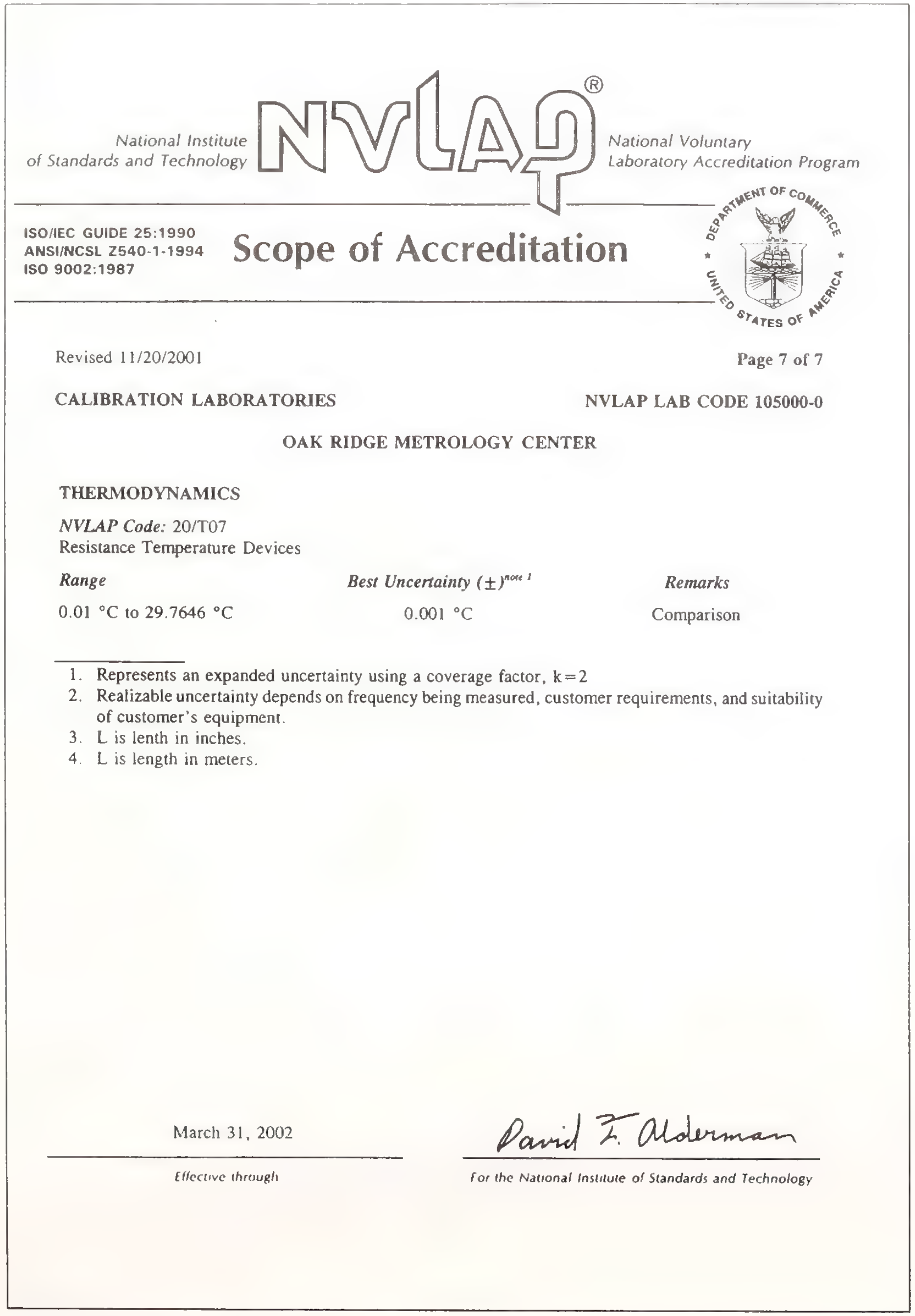

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OAK RIDGE METROLOGY CENTER

THERMODYNAMICS

NVLAP Code: 20/T07
Resistance Temperature Devices

Range	*Best Uncertainty (±)*$^{note\ 1}$	*Remarks*
0.01 °C to 29.7646 °C	0.001 °C	Comparison

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1. Represents an expanded uncertainty using a coverage factor, k=2
2. Realizable uncertainty depends on frequency being measured, customer requirements, and suitability of customer's equipment.
3. L is lenth in inches.
4. L is length in meters.

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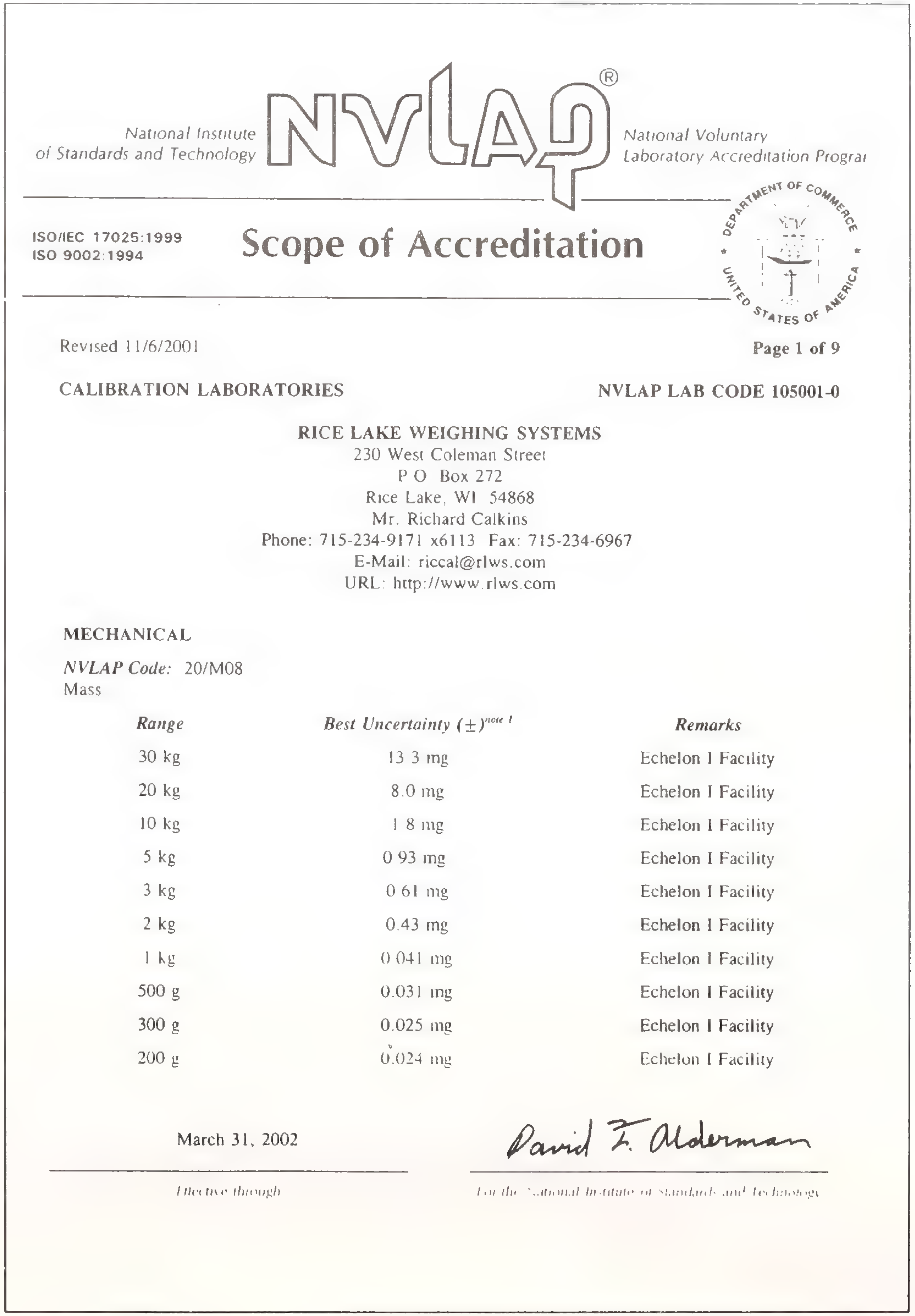

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CALIBRATION LABORATORIES **NVLAP LAB CODE 105001-0**

RICE LAKE WEIGHING SYSTEMS
230 West Coleman Street
P O Box 272
Rice Lake, WI 54868
Mr. Richard Calkins
Phone: 715-234-9171 x6113 Fax: 715-234-6967
E-Mail: riccal@rlws.com
URL: http://www.rlws.com

MECHANICAL

NVLAP Code: 20/M08
Mass

Range	*Best Uncertainty (±)*$^{note\ 1}$	*Remarks*
30 kg	13.3 mg	Echelon I Facility
20 kg	8.0 mg	Echelon I Facility
10 kg	1.8 mg	Echelon I Facility
5 kg	0.93 mg	Echelon I Facility
3 kg	0.61 mg	Echelon I Facility
2 kg	0.43 mg	Echelon I Facility
1 kg	0.041 mg	Echelon I Facility
500 g	0.031 mg	Echelon I Facility
300 g	0.025 mg	Echelon I Facility
200 g	0.024 mg	Echelon I Facility

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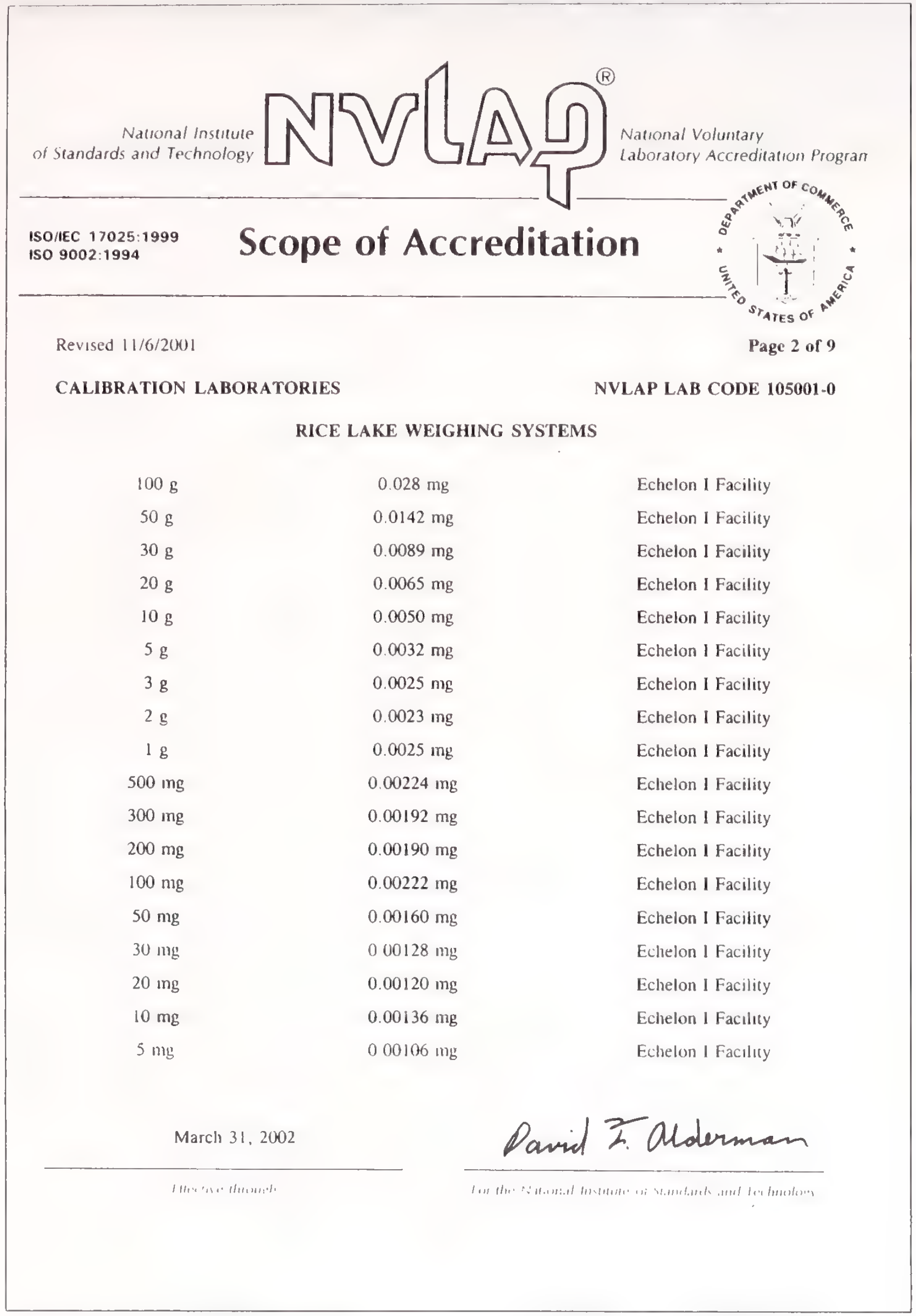

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CALIBRATION LABORATORIES

NVLAP LAB CODE 105001-0

RICE LAKE WEIGHING SYSTEMS

100 g	0.028 mg	Echelon I Facility
50 g	0.0142 mg	Echelon I Facility
30 g	0.0089 mg	Echelon I Facility
20 g	0.0065 mg	Echelon I Facility
10 g	0.0050 mg	Echelon I Facility
5 g	0.0032 mg	Echelon I Facility
3 g	0.0025 mg	Echelon I Facility
2 g	0.0023 mg	Echelon I Facility
1 g	0.0025 mg	Echelon I Facility
500 mg	0.00224 mg	Echelon I Facility
300 mg	0.00192 mg	Echelon I Facility
200 mg	0.00190 mg	Echelon I Facility
100 mg	0.00222 mg	Echelon I Facility
50 mg	0.00160 mg	Echelon I Facility
30 mg	0.00128 mg	Echelon I Facility
20 mg	0.00120 mg	Echelon I Facility
10 mg	0.00136 mg	Echelon I Facility
5 mg	0.00106 mg	Echelon I Facility

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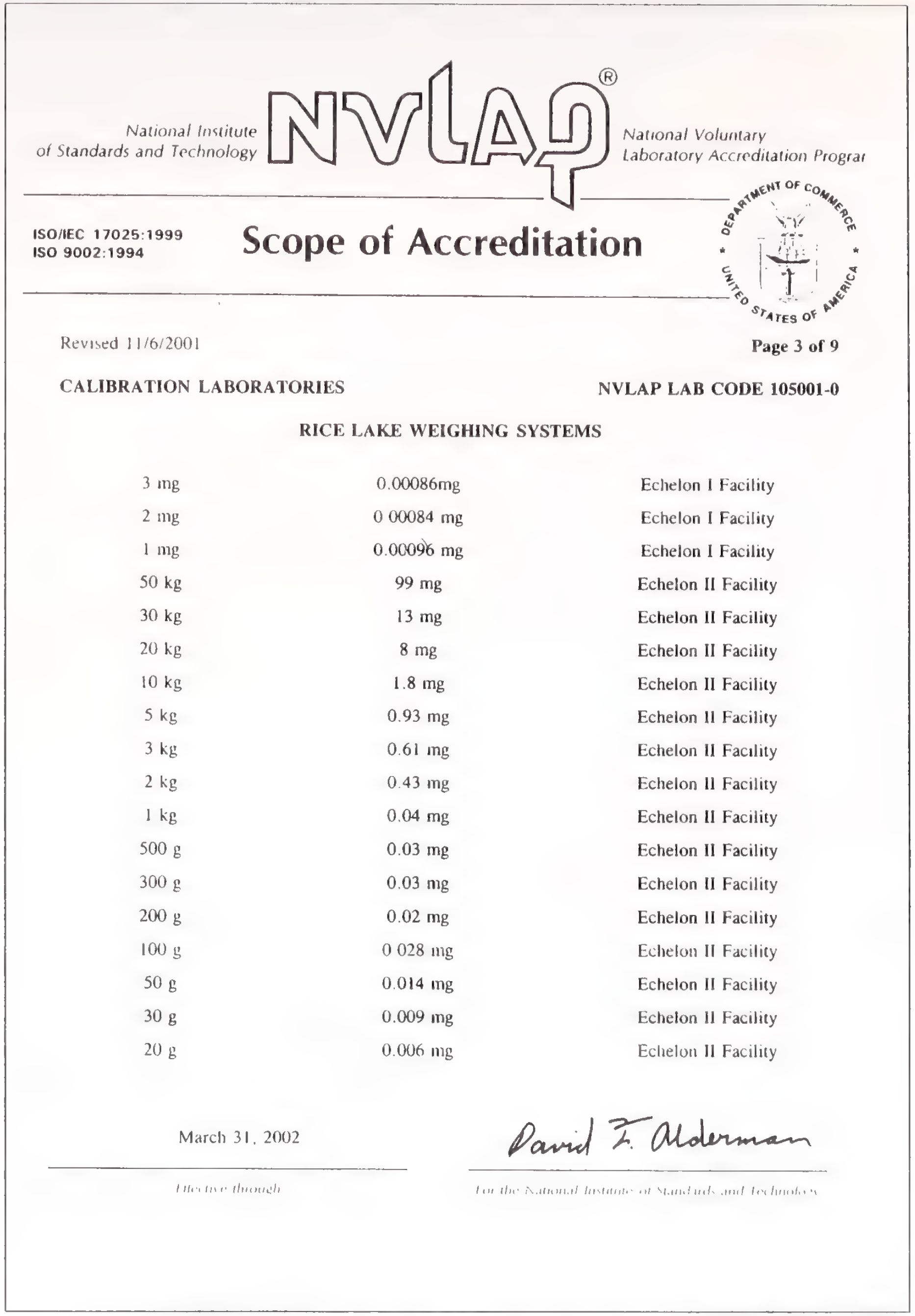

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CALIBRATION LABORATORIES

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RICE LAKE WEIGHING SYSTEMS

3 mg	0.00086mg	Echelon I Facility
2 mg	0.00084 mg	Echelon I Facility
1 mg	0.00096 mg	Echelon I Facility
50 kg	99 mg	Echelon II Facility
30 kg	13 mg	Echelon II Facility
20 kg	8 mg	Echelon II Facility
10 kg	1.8 mg	Echelon II Facility
5 kg	0.93 mg	Echelon II Facility
3 kg	0.61 mg	Echelon II Facility
2 kg	0.43 mg	Echelon II Facility
1 kg	0.04 mg	Echelon II Facility
500 g	0.03 mg	Echelon II Facility
300 g	0.03 mg	Echelon II Facility
200 g	0.02 mg	Echelon II Facility
100 g	0.028 mg	Echelon II Facility
50 g	0.014 mg	Echelon II Facility
30 g	0.009 mg	Echelon II Facility
20 g	0.006 mg	Echelon II Facility

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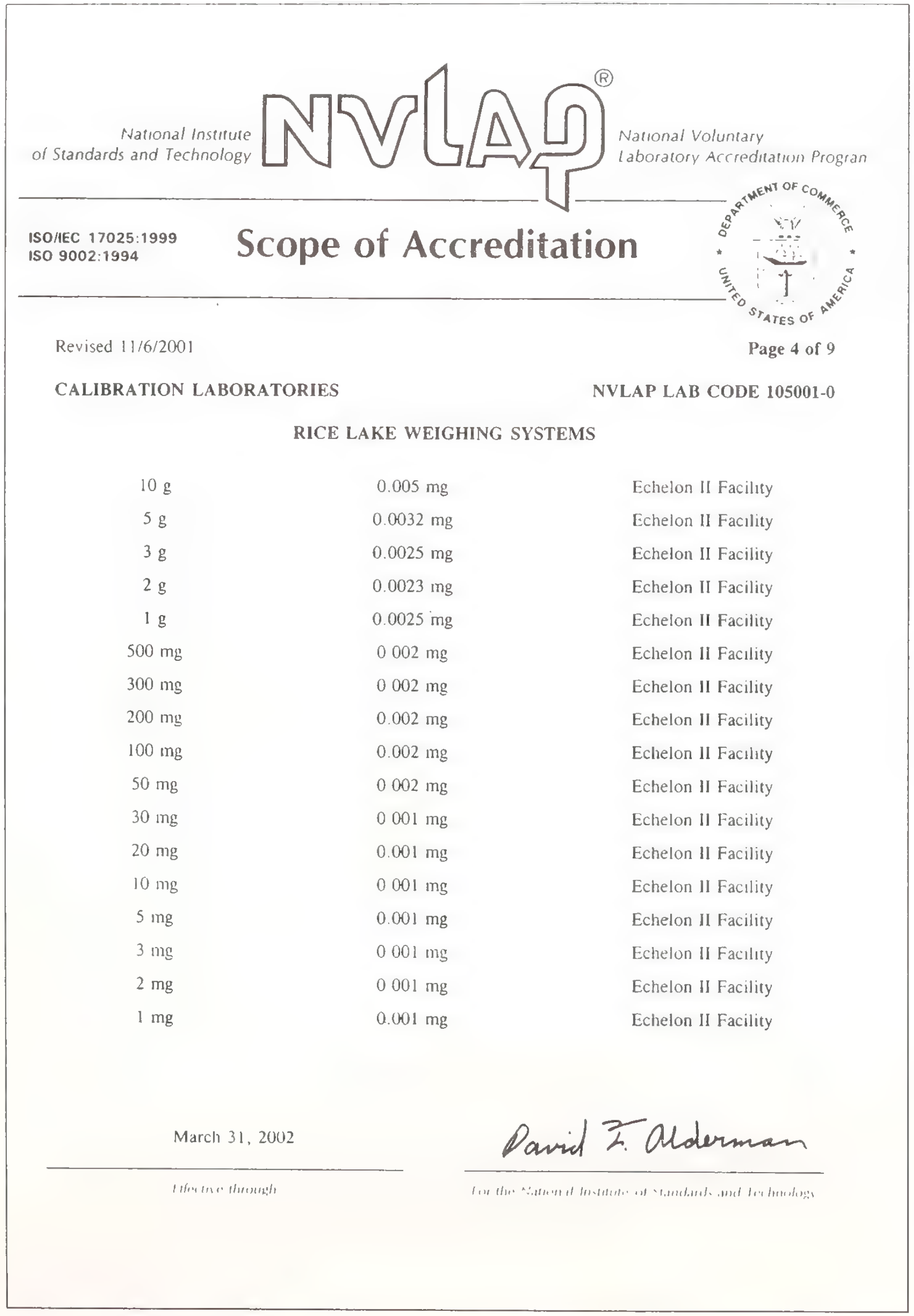

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RICE LAKE WEIGHING SYSTEMS

10 g	0.005 mg	Echelon II Facility
5 g	0.0032 mg	Echelon II Facility
3 g	0.0025 mg	Echelon II Facility
2 g	0.0023 mg	Echelon II Facility
1 g	0.0025 mg	Echelon II Facility
500 mg	0.002 mg	Echelon II Facility
300 mg	0.002 mg	Echelon II Facility
200 mg	0.002 mg	Echelon II Facility
100 mg	0.002 mg	Echelon II Facility
50 mg	0.002 mg	Echelon II Facility
30 mg	0.001 mg	Echelon II Facility
20 mg	0.001 mg	Echelon II Facility
10 mg	0.001 mg	Echelon II Facility
5 mg	0.001 mg	Echelon II Facility
3 mg	0.001 mg	Echelon II Facility
2 mg	0.001 mg	Echelon II Facility
1 mg	0.001 mg	Echelon II Facility

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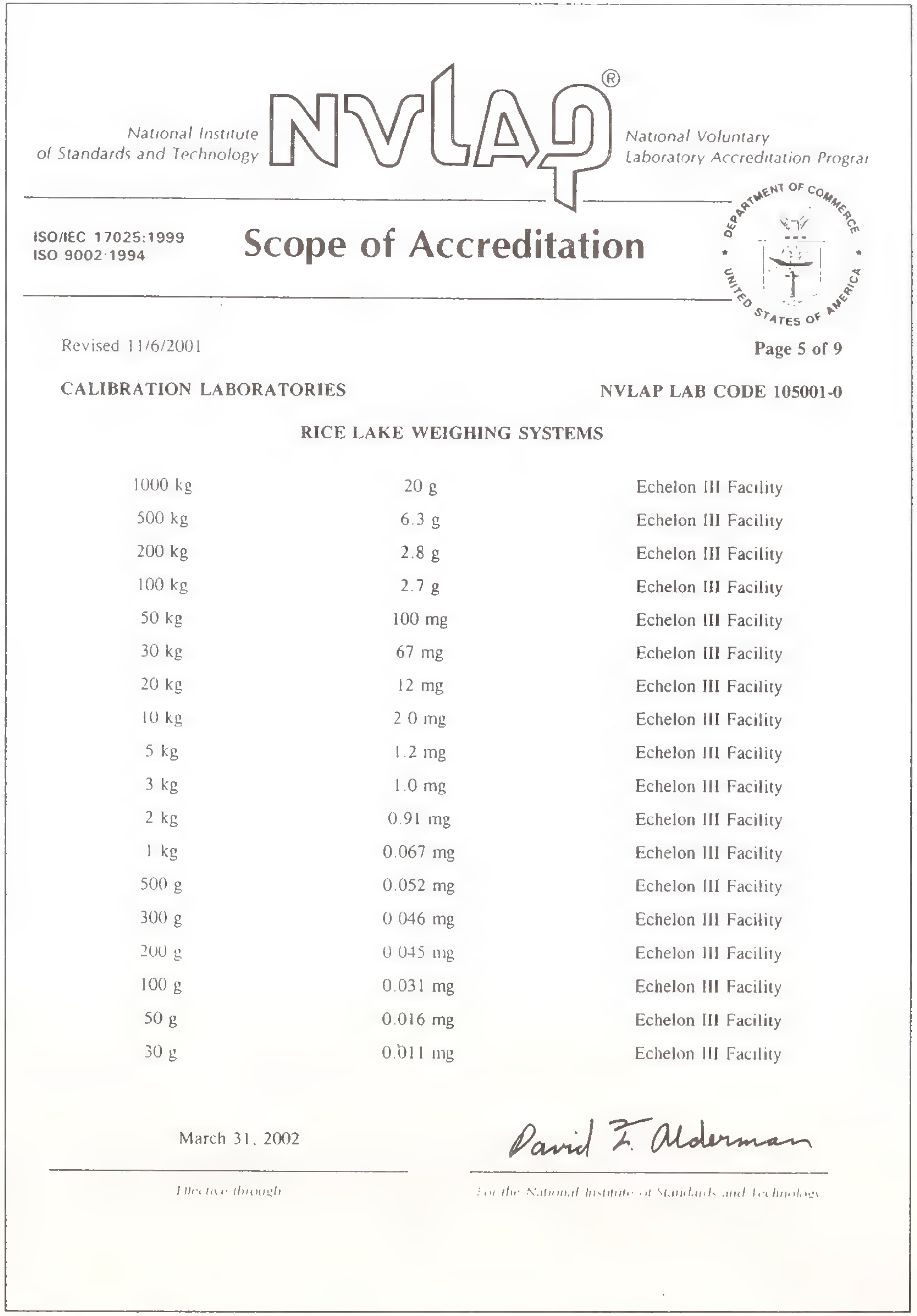

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RICE LAKE WEIGHING SYSTEMS

1000 kg	20 g	Echelon III Facility
500 kg	6.3 g	Echelon III Facility
200 kg	2.8 g	Echelon III Facility
100 kg	2.7 g	Echelon III Facility
50 kg	100 mg	Echelon III Facility
30 kg	67 mg	Echelon III Facility
20 kg	12 mg	Echelon III Facility
10 kg	2.0 mg	Echelon III Facility
5 kg	1.2 mg	Echelon III Facility
3 kg	1.0 mg	Echelon III Facility
2 kg	0.91 mg	Echelon III Facility
1 kg	0.067 mg	Echelon III Facility
500 g	0.052 mg	Echelon III Facility
300 g	0.046 mg	Echelon III Facility
200 g	0.045 mg	Echelon III Facility
100 g	0.031 mg	Echelon III Facility
50 g	0.016 mg	Echelon III Facility
30 g	0.011 mg	Echelon III Facility

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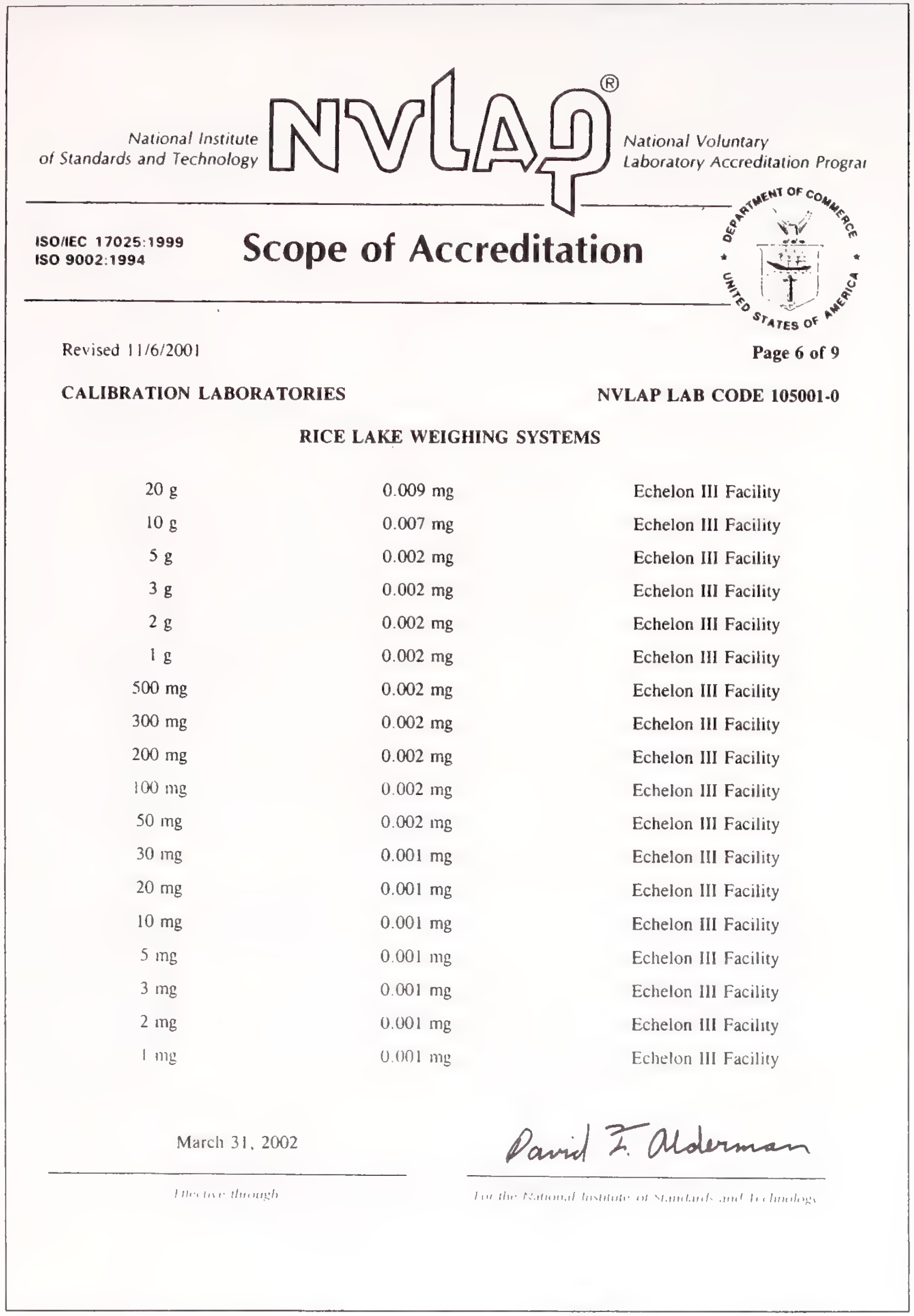

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RICE LAKE WEIGHING SYSTEMS

20 g	0.009 mg	Echelon III Facility
10 g	0.007 mg	Echelon III Facility
5 g	0.002 mg	Echelon III Facility
3 g	0.002 mg	Echelon III Facility
2 g	0.002 mg	Echelon III Facility
1 g	0.002 mg	Echelon III Facility
500 mg	0.002 mg	Echelon III Facility
300 mg	0.002 mg	Echelon III Facility
200 mg	0.002 mg	Echelon III Facility
100 mg	0.002 mg	Echelon III Facility
50 mg	0.002 mg	Echelon III Facility
30 mg	0.001 mg	Echelon III Facility
20 mg	0.001 mg	Echelon III Facility
10 mg	0.001 mg	Echelon III Facility
5 mg	0.001 mg	Echelon III Facility
3 mg	0.001 mg	Echelon III Facility
2 mg	0.001 mg	Echelon III Facility
1 mg	0.001 mg	Echelon III Facility

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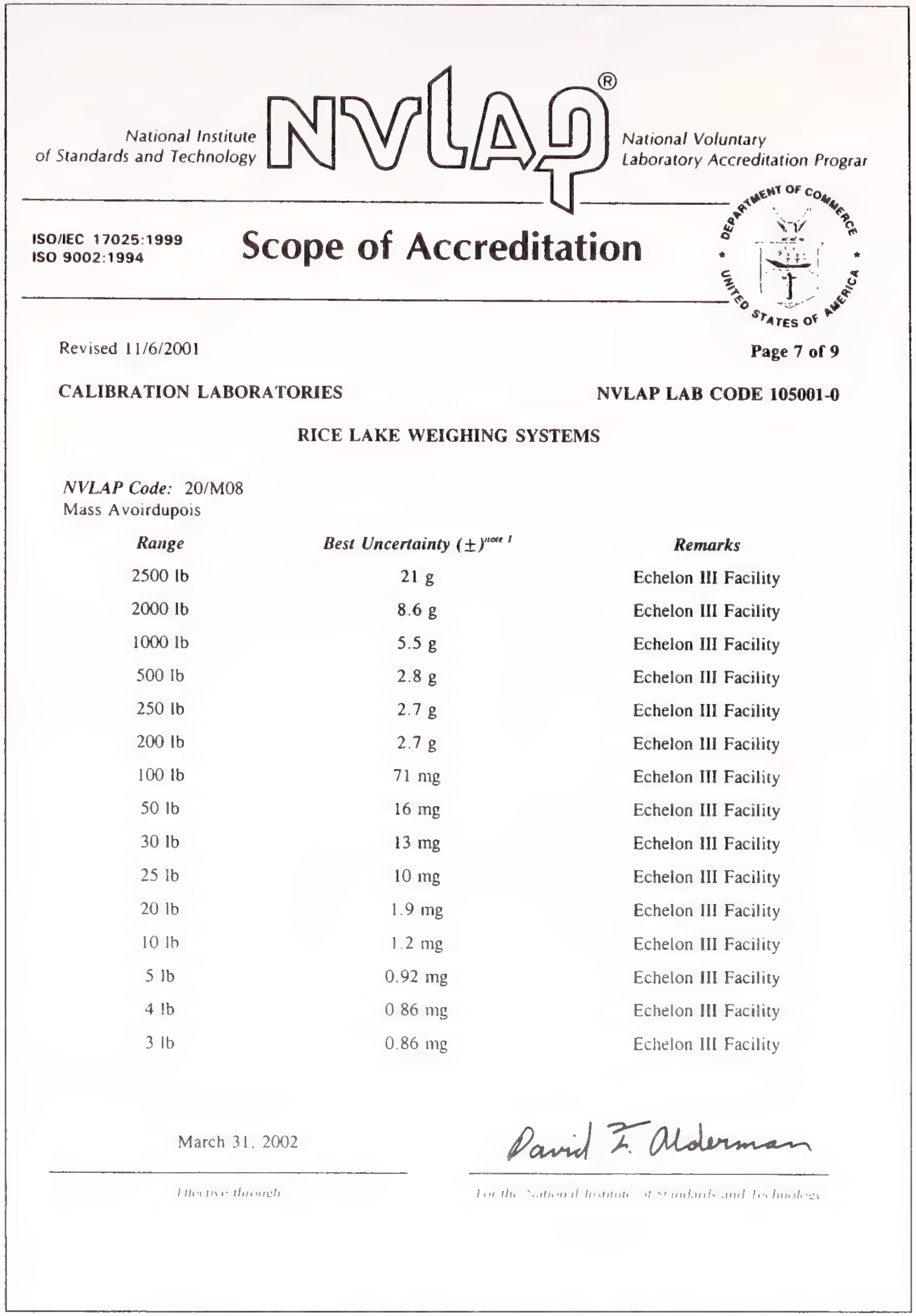

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RICE LAKE WEIGHING SYSTEMS

NVLAP Code: 20/M08
Mass Avoirdupois

Range	*Best Uncertainty* $(\pm)^{note\ 1}$	*Remarks*
2500 lb	21 g	Echelon III Facility
2000 lb	8.6 g	Echelon III Facility
1000 lb	5.5 g	Echelon III Facility
500 lb	2.8 g	Echelon III Facility
250 lb	2.7 g	Echelon III Facility
200 lb	2.7 g	Echelon III Facility
100 lb	71 mg	Echelon III Facility
50 lb	16 mg	Echelon III Facility
30 lb	13 mg	Echelon III Facility
25 lb	10 mg	Echelon III Facility
20 lb	1.9 mg	Echelon III Facility
10 lb	1.2 mg	Echelon III Facility
5 lb	0.92 mg	Echelon III Facility
4 lb	0.86 mg	Echelon III Facility
3 lb	0.86 mg	Echelon III Facility

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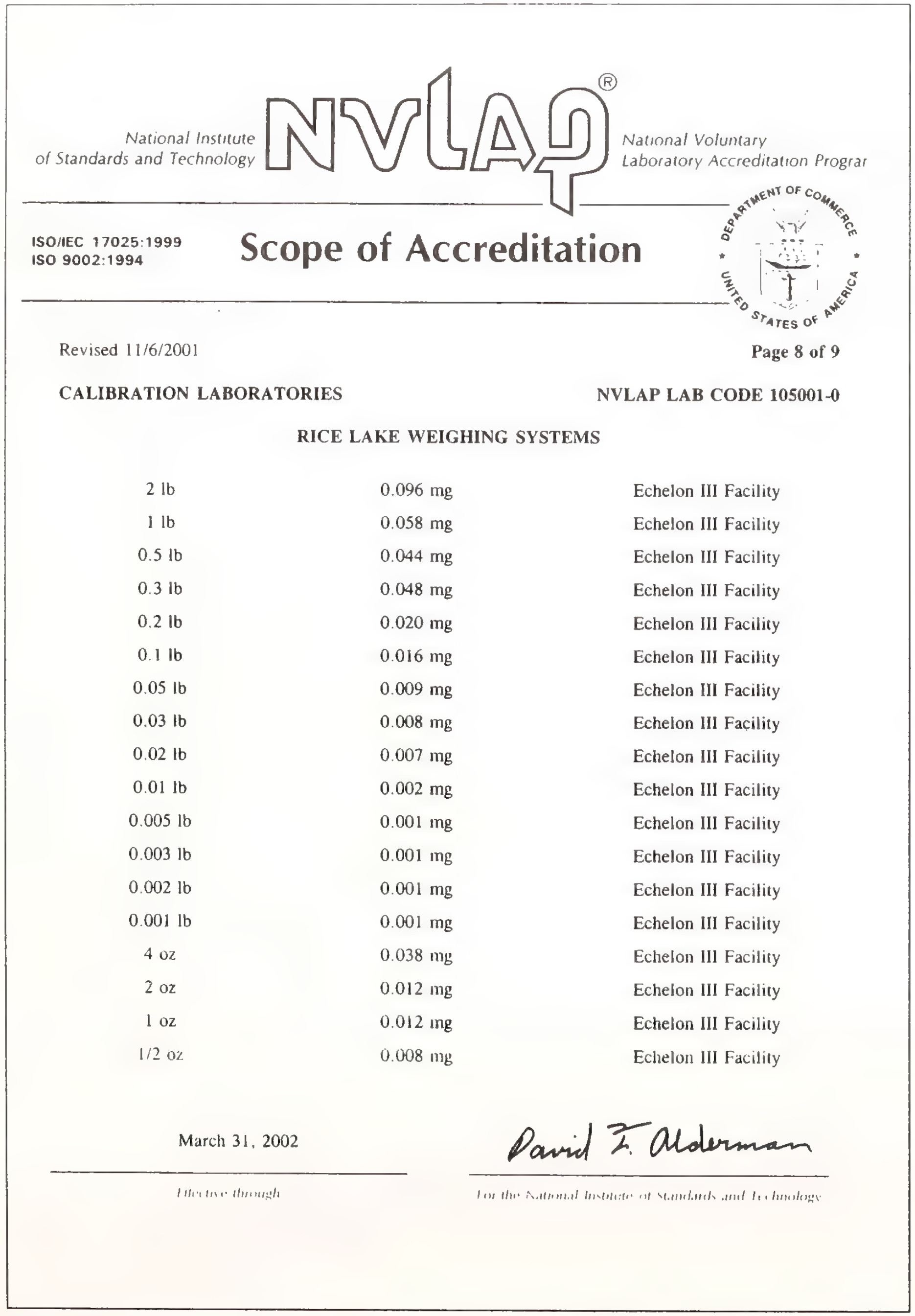

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CALIBRATION LABORATORIES **NVLAP LAB CODE 105001-0**

RICE LAKE WEIGHING SYSTEMS

2 lb	0.096 mg	Echelon III Facility
1 lb	0.058 mg	Echelon III Facility
0.5 lb	0.044 mg	Echelon III Facility
0.3 lb	0.048 mg	Echelon III Facility
0.2 lb	0.020 mg	Echelon III Facility
0.1 lb	0.016 mg	Echelon III Facility
0.05 lb	0.009 mg	Echelon III Facility
0.03 lb	0.008 mg	Echelon III Facility
0.02 lb	0.007 mg	Echelon III Facility
0.01 lb	0.002 mg	Echelon III Facility
0.005 lb	0.001 mg	Echelon III Facility
0.003 lb	0.001 mg	Echelon III Facility
0.002 lb	0.001 mg	Echelon III Facility
0.001 lb	0.001 mg	Echelon III Facility
4 oz	0.038 mg	Echelon III Facility
2 oz	0.012 mg	Echelon III Facility
1 oz	0.012 mg	Echelon III Facility
1/2 oz	0.008 mg	Echelon III Facility

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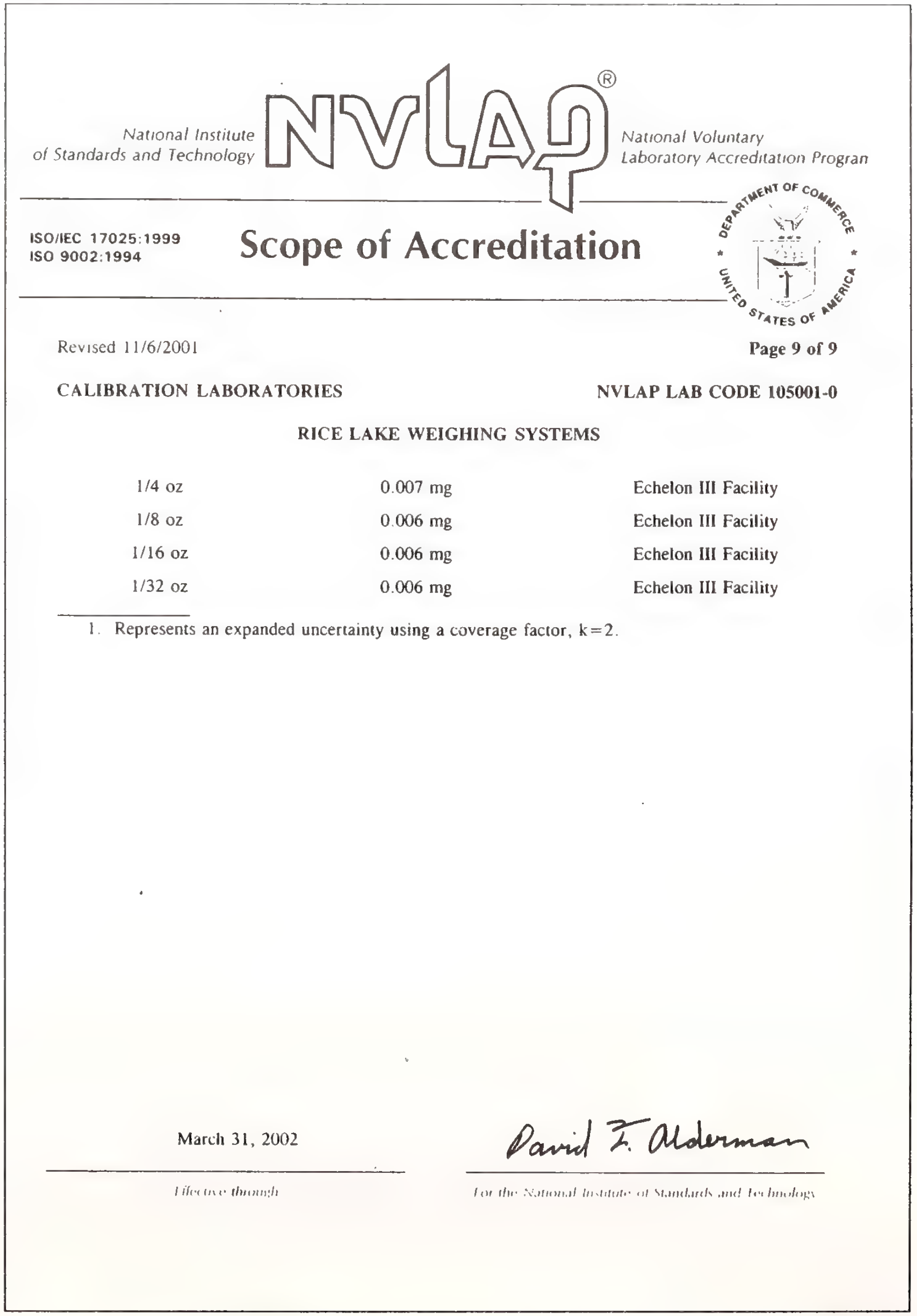

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CALIBRATION LABORATORIES **NVLAP LAB CODE 105001-0**

RICE LAKE WEIGHING SYSTEMS

1/4 oz	0.007 mg	Echelon III Facility
1/8 oz	0.006 mg	Echelon III Facility
1/16 oz	0.006 mg	Echelon III Facility
1/32 oz	0.006 mg	Echelon III Facility

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1. Represents an expanded uncertainty using a coverage factor, k=2.

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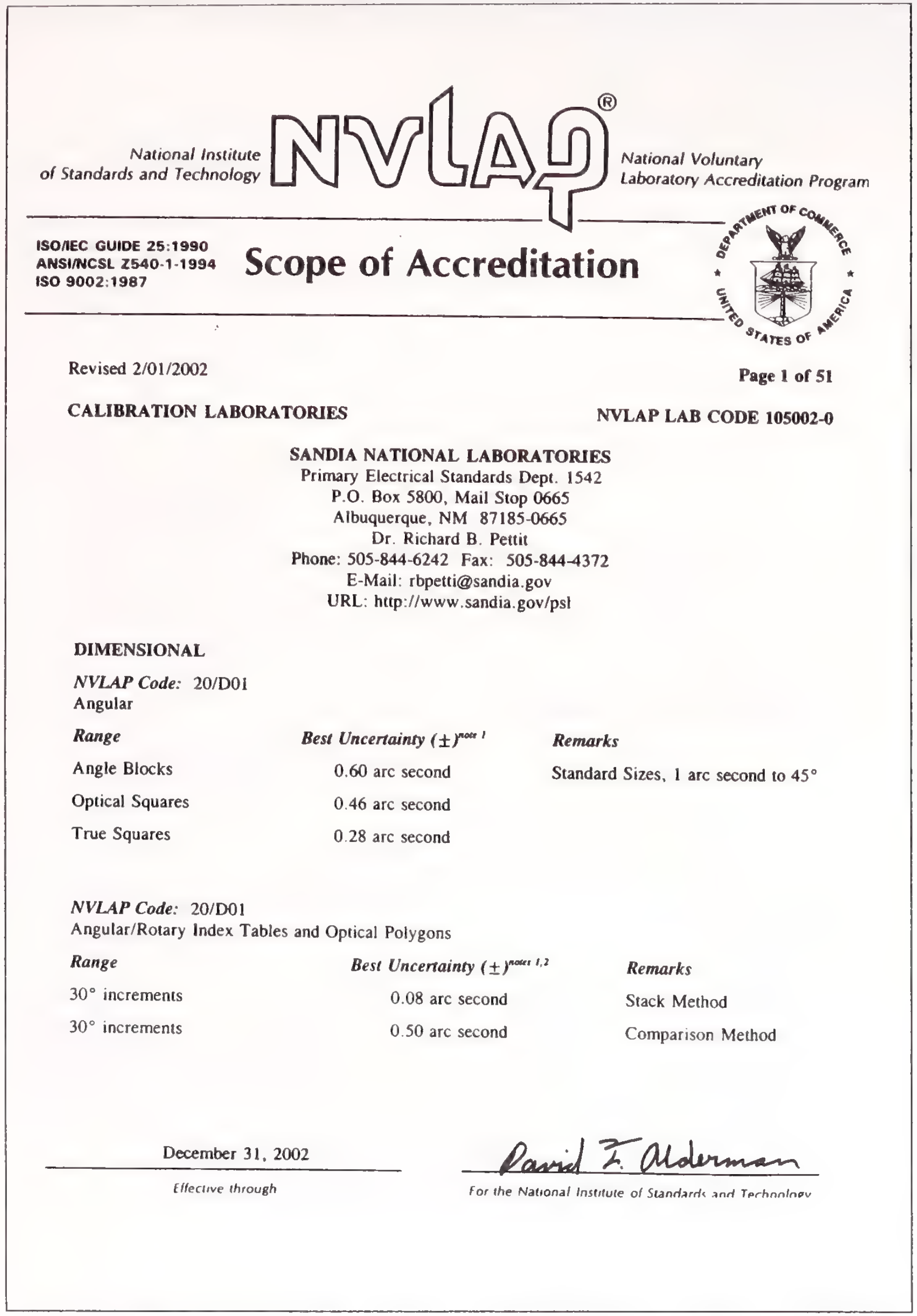

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SANDIA NATIONAL LABORATORIES
Primary Electrical Standards Dept. 1542
P.O. Box 5800, Mail Stop 0665
Albuquerque, NM 87185-0665
Dr. Richard B. Pettit
Phone: 505-844-6242 Fax: 505-844-4372
E-Mail: rbpetti@sandia.gov
URL: http://www.sandia.gov/psl

DIMENSIONAL

NVLAP Code: 20/D01
Angular

Range	*Best Uncertainty* (±)$^{\text{note 1}}$	*Remarks*
Angle Blocks	0.60 arc second	Standard Sizes, 1 arc second to 45°
Optical Squares	0.46 arc second	
True Squares	0.28 arc second	

NVLAP Code: 20/D01
Angular/Rotary Index Tables and Optical Polygons

Range	*Best Uncertainty* (±)$^{\text{notes 1,2}}$	*Remarks*
30° increments	0.08 arc second	Stack Method
30° increments	0.50 arc second	Comparison Method

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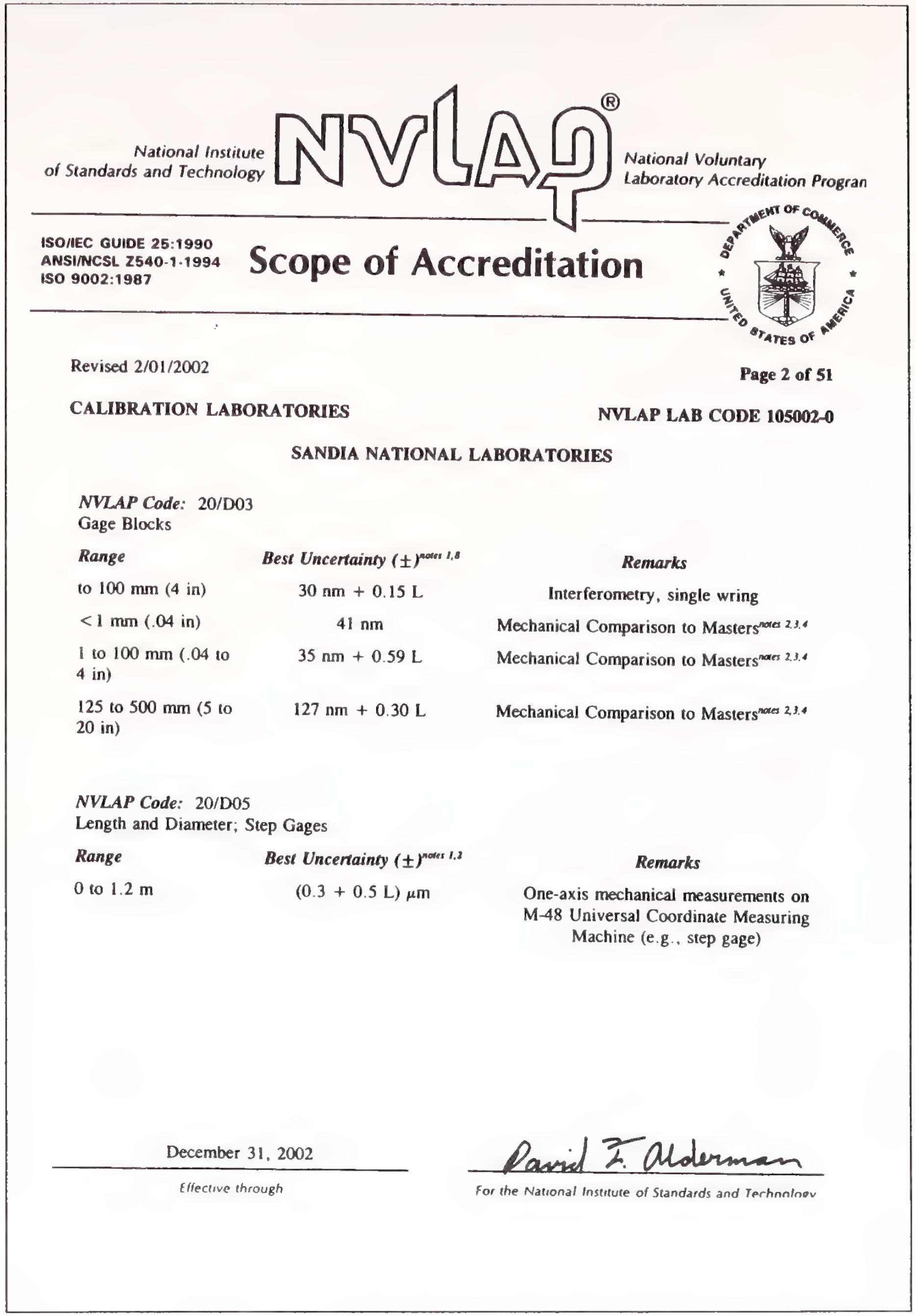

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NVLAP Code: 20/D03
Gage Blocks

Range	*Best Uncertainty* (±)$^{\text{notes 1,8}}$	*Remarks*
to 100 mm (4 in)	30 nm + 0.15 L	Interferometry, single wring
<1 mm (.04 in)	41 nm	Mechanical Comparison to Masters$^{\text{notes 2,3,4}}$
1 to 100 mm (.04 to 4 in)	35 nm + 0.59 L	Mechanical Comparison to Masters$^{\text{notes 2,3,4}}$
125 to 500 mm (5 to 20 in)	127 nm + 0.30 L	Mechanical Comparison to Masters$^{\text{notes 2,3,4}}$

NVLAP Code: 20/D05
Length and Diameter; Step Gages

Range	*Best Uncertainty* (±)$^{\text{notes 1,3}}$	*Remarks*
0 to 1.2 m	(0.3 + 0.5 L) μm	One-axis mechanical measurements on M-48 Universal Coordinate Measuring Machine (e.g., step gage)

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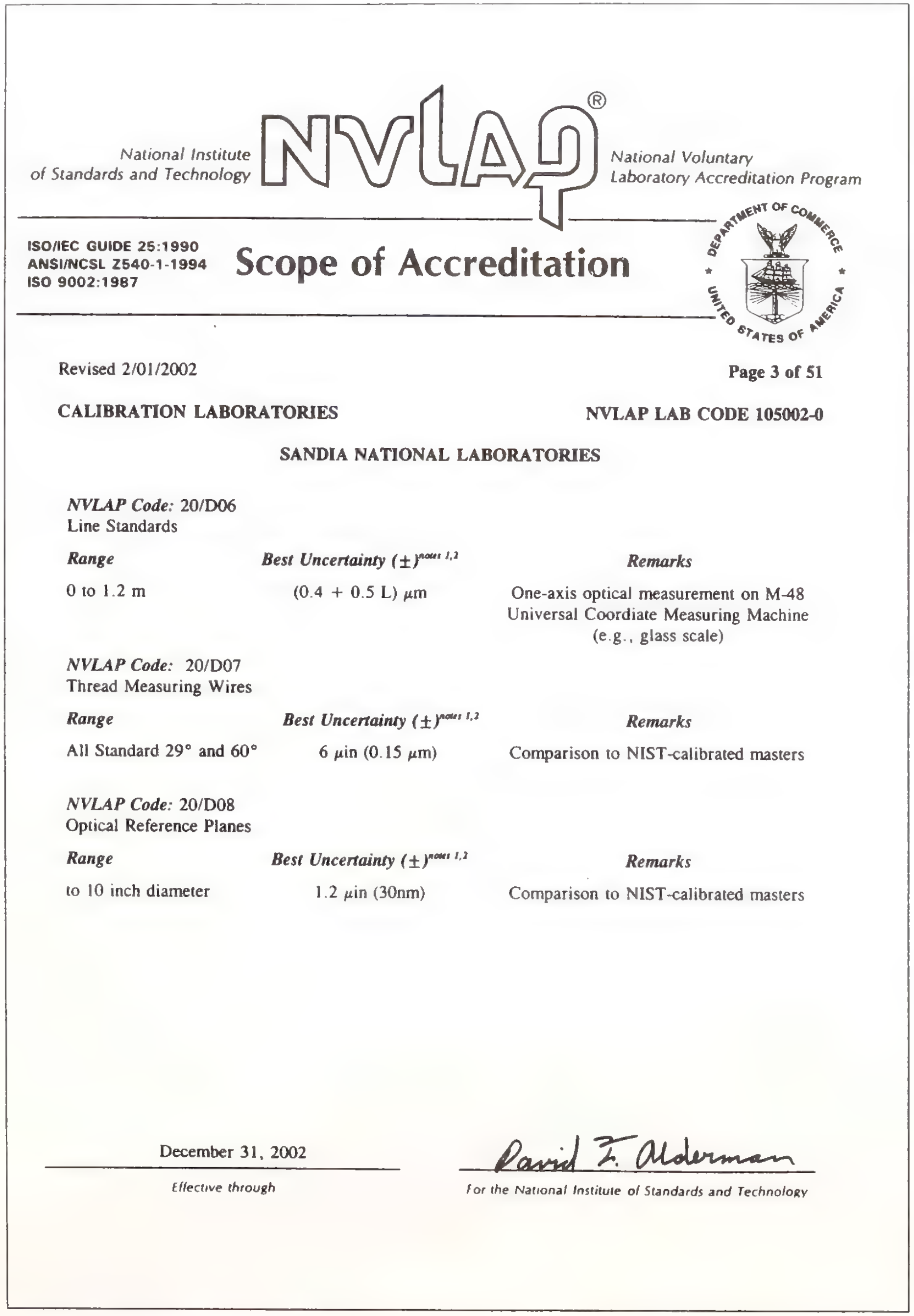

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NVLAP Code: 20/D06
Line Standards

Range	*Best Uncertainty* $(\pm)^{notes\ 1,2}$	*Remarks*
0 to 1.2 m	(0.4 + 0.5 L) μm	One-axis optical measurement on M-48 Universal Coordiate Measuring Machine (e.g., glass scale)

NVLAP Code: 20/D07
Thread Measuring Wires

Range	*Best Uncertainty* $(\pm)^{notes\ 1,2}$	*Remarks*
All Standard 29° and 60°	6 μin (0.15 μm)	Comparison to NIST-calibrated masters

NVLAP Code: 20/D08
Optical Reference Planes

Range	*Best Uncertainty* $(\pm)^{notes\ 1,2}$	*Remarks*
to 10 inch diameter	1.2 μin (30nm)	Comparison to NIST-calibrated masters

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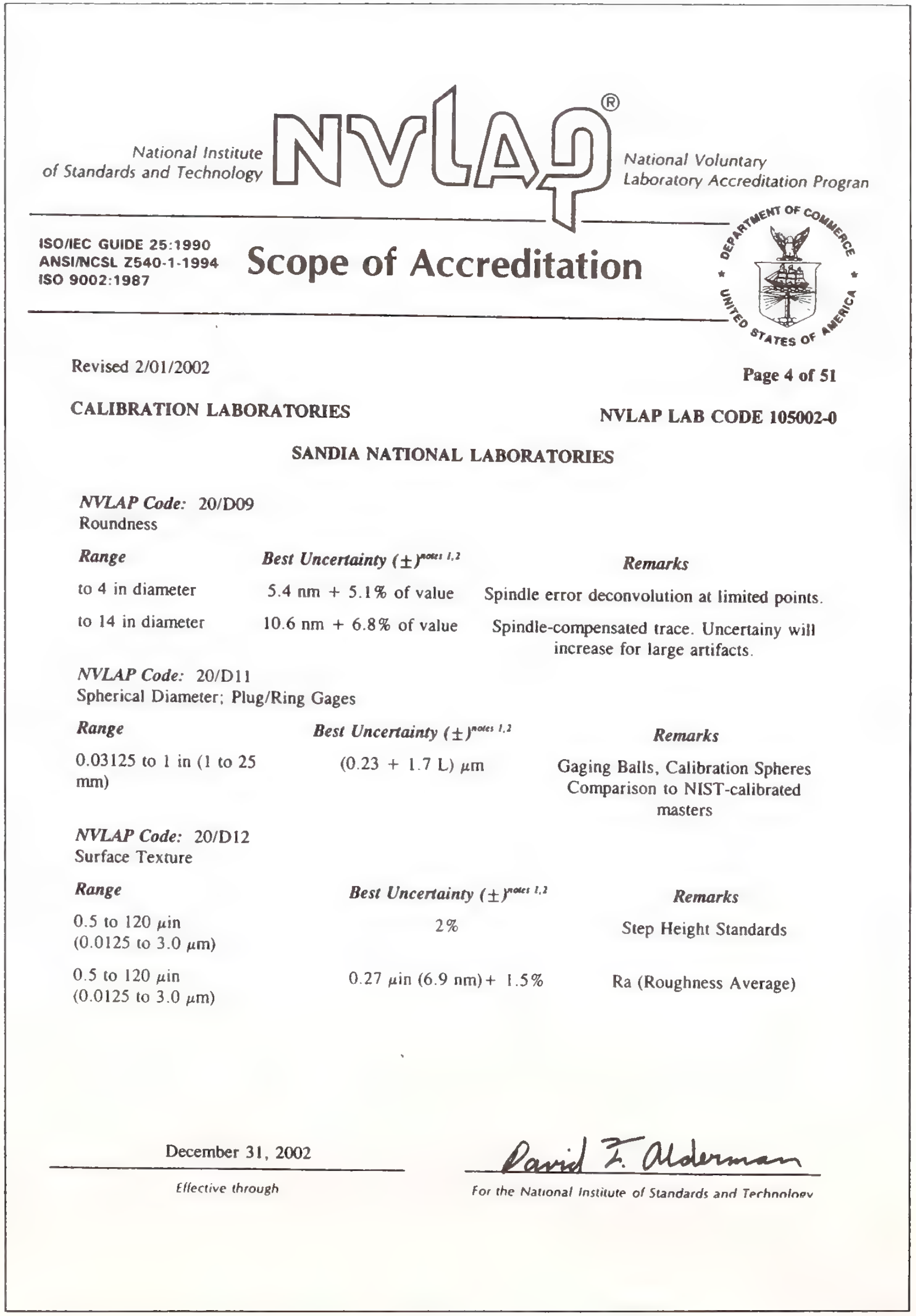

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NVLAP Code: 20/D09
Roundness

Range	*Best Uncertainty* $(\pm)^{notes\ 1,2}$	*Remarks*
to 4 in diameter	5.4 nm + 5.1% of value	Spindle error deconvolution at limited points.
to 14 in diameter	10.6 nm + 6.8% of value	Spindle-compensated trace. Uncertainy will increase for large artifacts.

NVLAP Code: 20/D11
Spherical Diameter; Plug/Ring Gages

Range	*Best Uncertainty* $(\pm)^{notes\ 1,2}$	*Remarks*
0.03125 to 1 in (1 to 25 mm)	(0.23 + 1.7 L) μm	Gaging Balls, Calibration Spheres Comparison to NIST-calibrated masters

NVLAP Code: 20/D12
Surface Texture

Range	*Best Uncertainty* $(\pm)^{notes\ 1,2}$	*Remarks*
0.5 to 120 μin (0.0125 to 3.0 μm)	2%	Step Height Standards
0.5 to 120 μin (0.0125 to 3.0 μm)	0.27 μin (6.9 nm) + 1.5%	Ra (Roughness Average)

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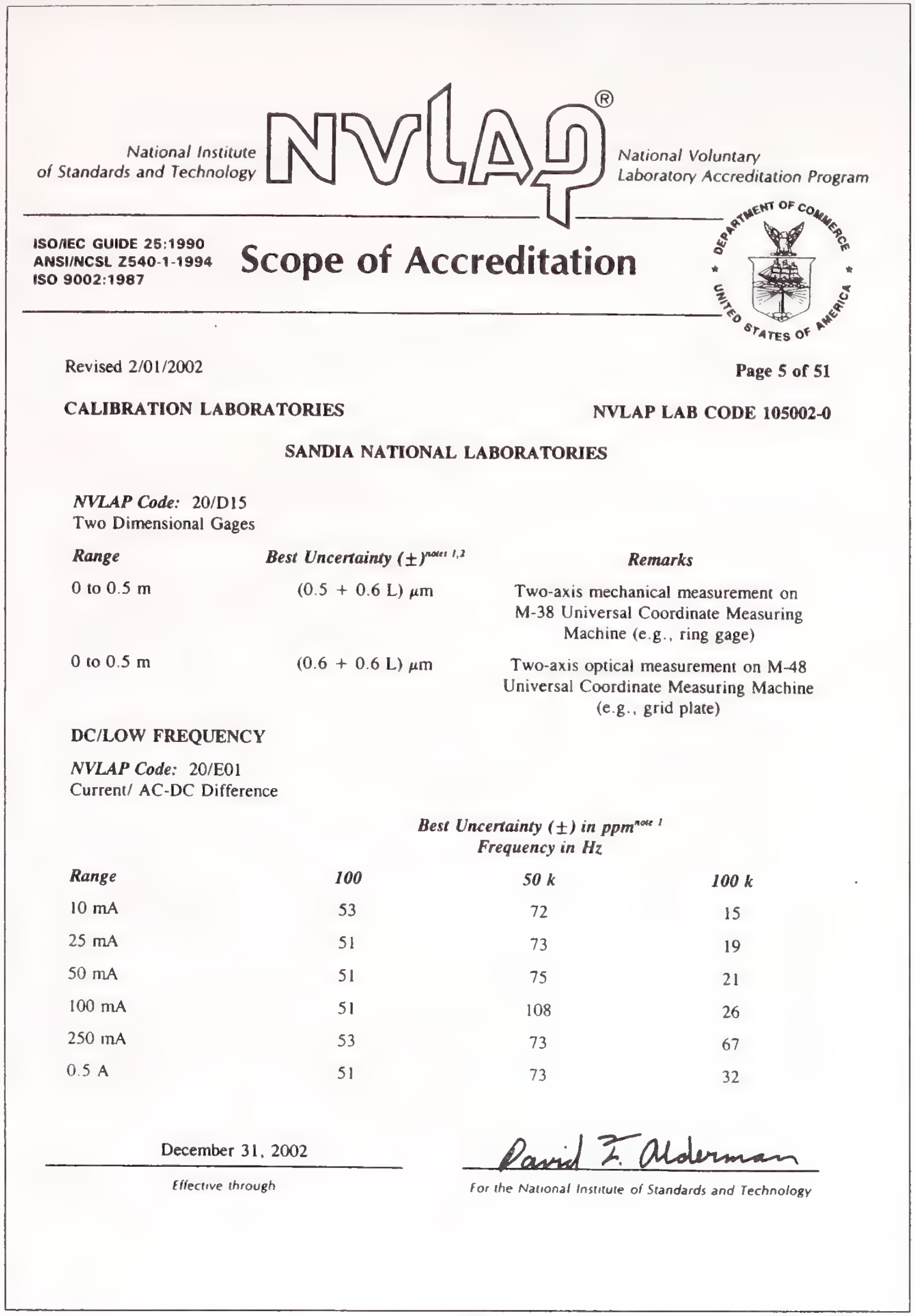

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NVLAP Code: 20/D15
Two Dimensional Gages

Range	*Best Uncertainty* $(\pm)^{\text{notes } 1,2}$	*Remarks*
0 to 0.5 m	(0.5 + 0.6 L) μm	Two-axis mechanical measurement on M-38 Universal Coordinate Measuring Machine (e.g., ring gage)
0 to 0.5 m	(0.6 + 0.6 L) μm	Two-axis optical measurement on M-48 Universal Coordinate Measuring Machine (e.g., grid plate)

DC/LOW FREQUENCY

NVLAP Code: 20/E01
Current/ AC-DC Difference

Best Uncertainty (±) in ppm$^{\text{note } 1}$
Frequency in Hz

Range	*100*	*50 k*	*100 k*
10 mA	53	72	15
25 mA	51	73	19
50 mA	51	75	21
100 mA	51	108	26
250 mA	53	73	67
0.5 A	51	73	32

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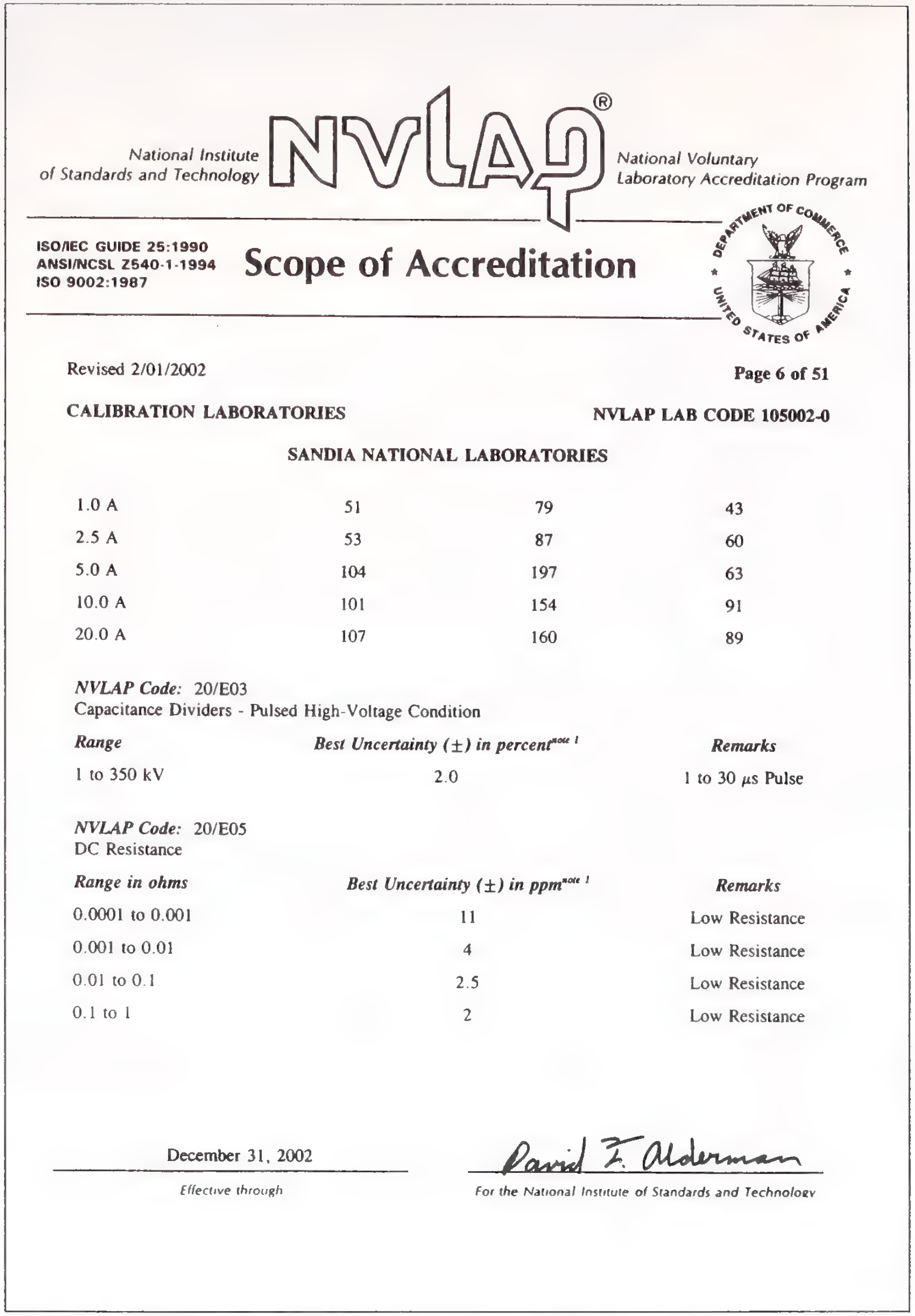

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1.0 A	51	79	43
2.5 A	53	87	60
5.0 A	104	197	63
10.0 A	101	154	91
20.0 A	107	160	89

NVLAP Code: 20/E03
Capacitance Dividers - Pulsed High-Voltage Condition

Range	*Best Uncertainty (±) in percent*$^{\text{note } 1}$	*Remarks*
1 to 350 kV	2.0	1 to 30 μs Pulse

NVLAP Code: 20/E05
DC Resistance

Range in ohms	*Best Uncertainty (±) in ppm*$^{\text{note } 1}$	*Remarks*
0.0001 to 0.001	11	Low Resistance
0.001 to 0.01	4	Low Resistance
0.01 to 0.1	2.5	Low Resistance
0.1 to 1	2	Low Resistance

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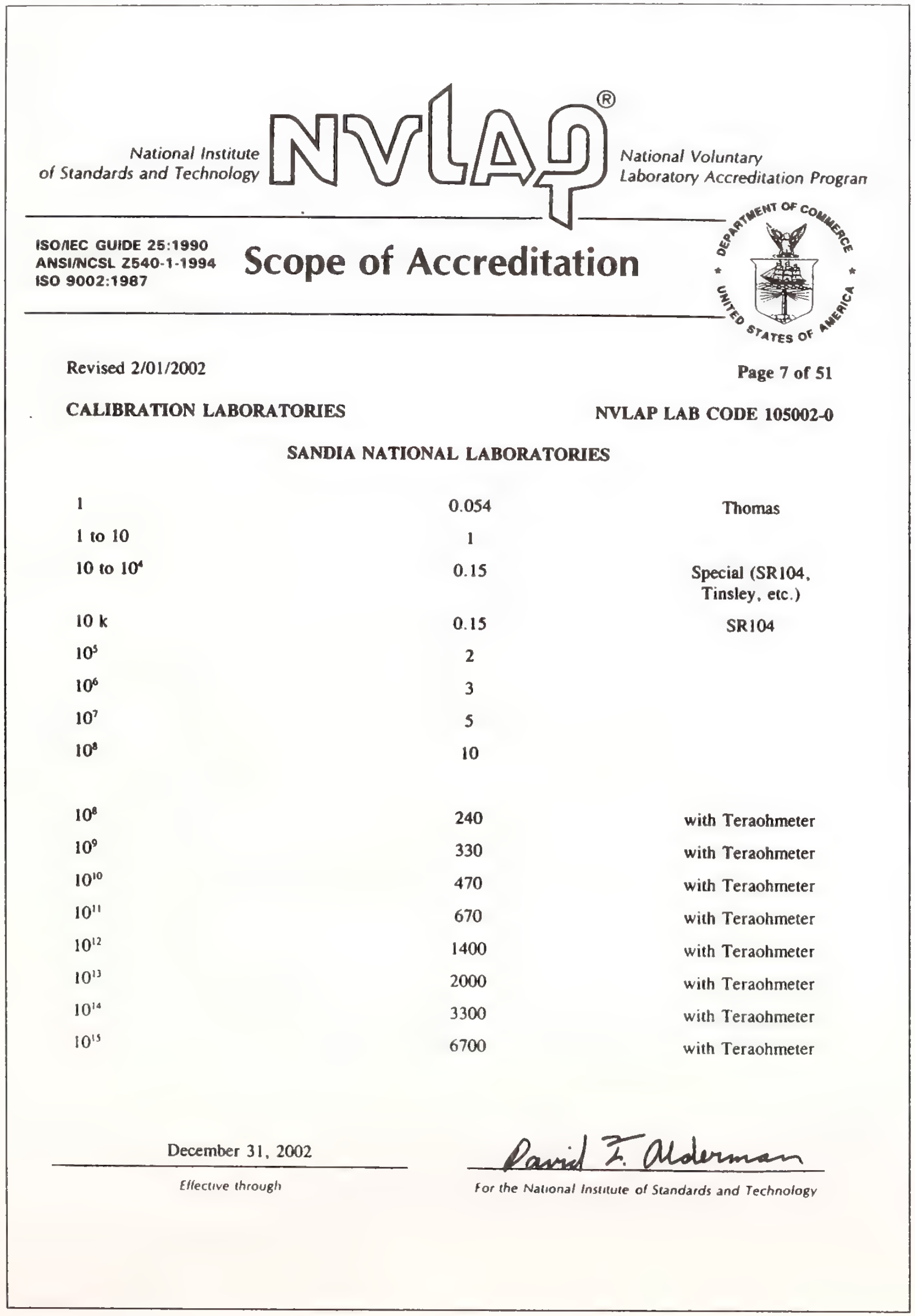

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1	0.054	Thomas
1 to 10	1	
10 to 10^4	0.15	Special (SR104, Tinsley, etc.)
10 k	0.15	SR104
10^5	2	
10^6	3	
10^7	5	
10^8	10	
10^8	240	with Teraohmeter
10^9	330	with Teraohmeter
10^{10}	470	with Teraohmeter
10^{11}	670	with Teraohmeter
10^{12}	1400	with Teraohmeter
10^{13}	2000	with Teraohmeter
10^{14}	3300	with Teraohmeter
10^{15}	6700	with Teraohmeter

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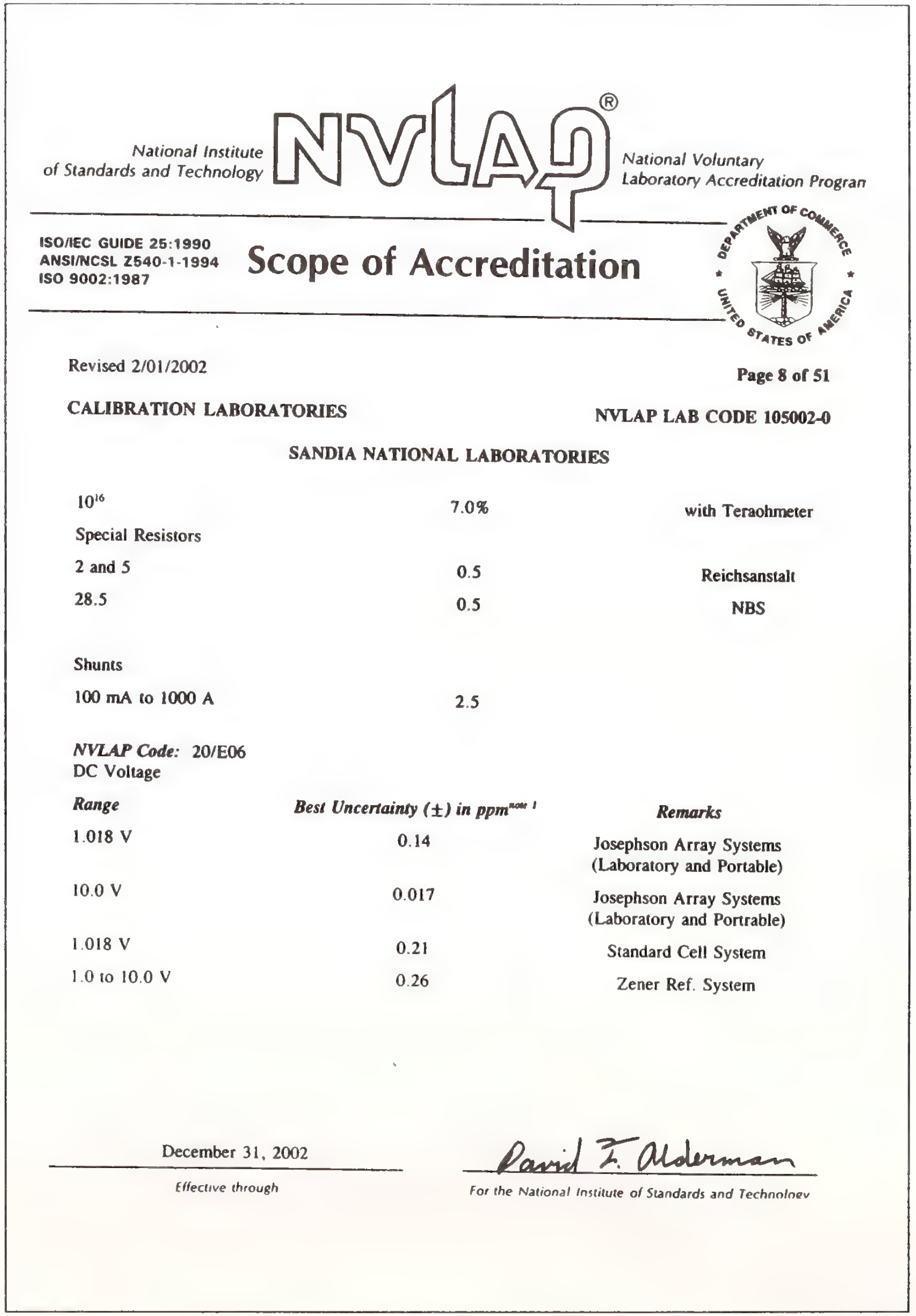

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10^{16}	7.0%	with Teraohmeter
Special Resistors		
2 and 5	0.5	Reichsanstalt
28.5	0.5	NBS
Shunts		
100 mA to 1000 A	2.5	

NVLAP Code: 20/E06
DC Voltage

Range	***Best Uncertainty (±) in ppm***[note 1]	***Remarks***
1.018 V	0.14	Josephson Array Systems (Laboratory and Portable)
10.0 V	0.017	Josephson Array Systems (Laboratory and Portable)
1.018 V	0.21	Standard Cell System
1.0 to 10.0 V	0.26	Zener Ref. System

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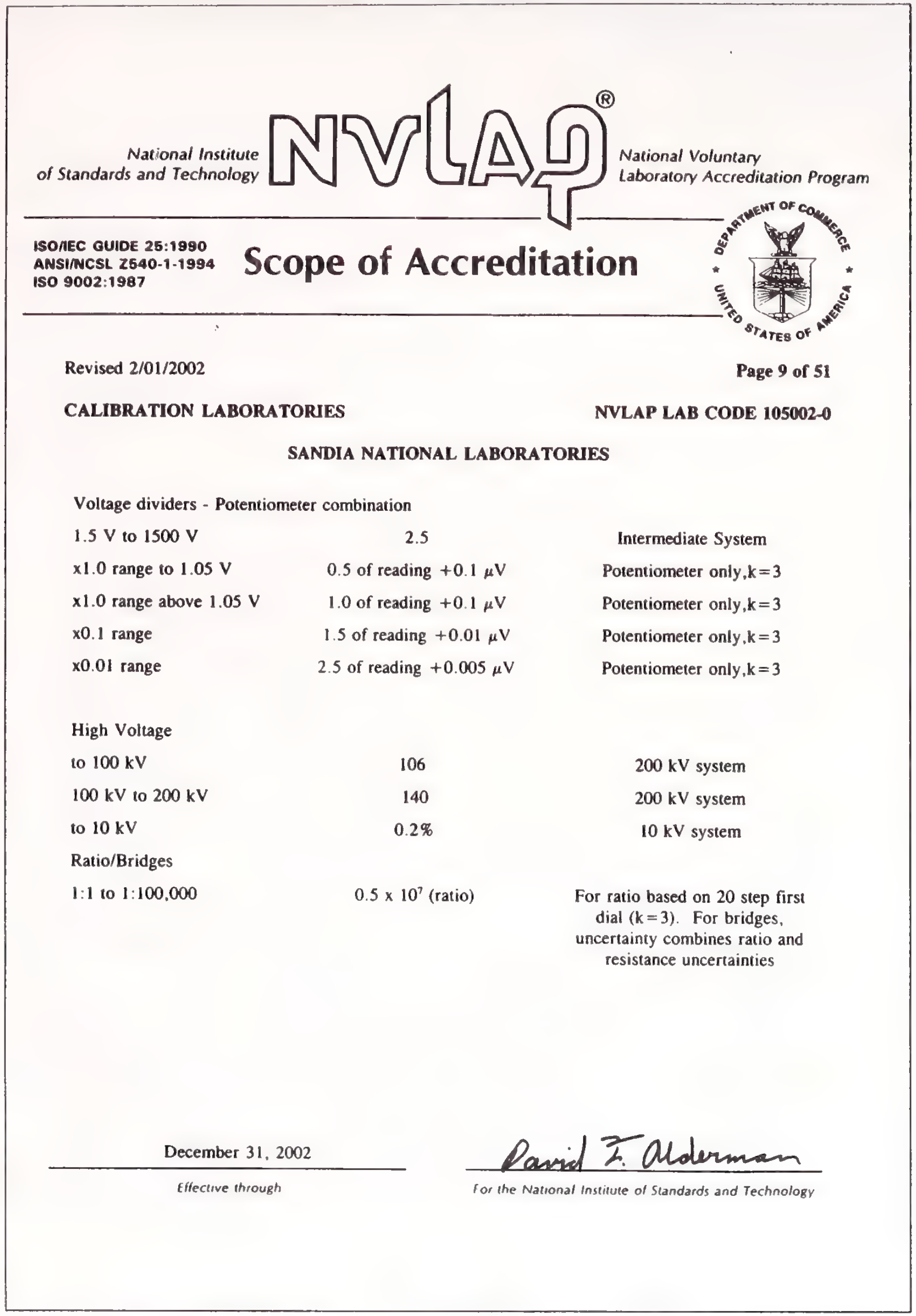

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Voltage dividers - Potentiometer combination		
1.5 V to 1500 V	2.5	Intermediate System
x1.0 range to 1.05 V	0.5 of reading +0.1 μV	Potentiometer only,k=3
x1.0 range above 1.05 V	1.0 of reading +0.1 μV	Potentiometer only,k=3
x0.1 range	1.5 of reading +0.01 μV	Potentiometer only,k=3
x0.01 range	2.5 of reading +0.005 μV	Potentiometer only,k=3
High Voltage		
to 100 kV	106	200 kV system
100 kV to 200 kV	140	200 kV system
to 10 kV	0.2%	10 kV system
Ratio/Bridges		
1:1 to 1:100,000	0.5 x 10^7 (ratio)	For ratio based on 20 step first dial (k=3). For bridges, uncertainty combines ratio and resistance uncertainties

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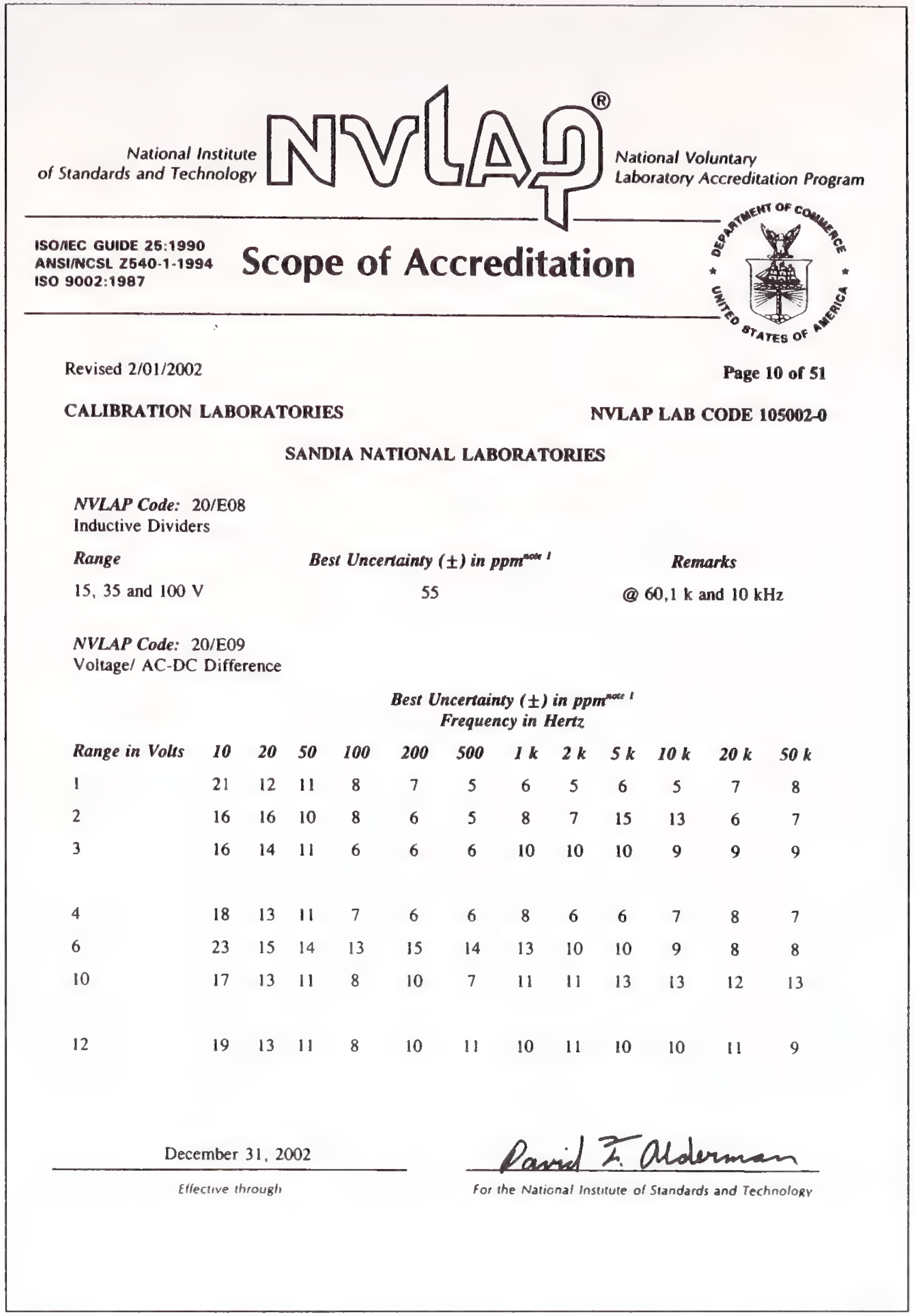

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NVLAP Code: 20/E08
Inductive Dividers

Range	*Best Uncertainty (±) in ppm*$^{note\ 1}$	*Remarks*
15, 35 and 100 V	55	@ 60,1 k and 10 kHz

NVLAP Code: 20/E09
Voltage/ AC-DC Difference

Best Uncertainty (±) in ppm$^{note\ 1}$
Frequency in Hertz

Range in Volts	*10*	*20*	*50*	*100*	*200*	*500*	*1 k*	*2 k*	*5 k*	*10 k*	*20 k*	*50 k*
1	21	12	11	8	7	5	6	5	6	5	7	8
2	16	16	10	8	6	5	8	7	15	13	6	7
3	16	14	11	6	6	6	10	10	10	9	9	9
4	18	13	11	7	6	6	8	6	6	7	8	7
6	23	15	14	13	15	14	13	10	10	9	8	8
10	17	13	11	8	10	7	11	11	13	13	12	13
12	19	13	11	8	10	11	10	11	10	10	11	9

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20	31	14	11	6	6	7	7	8	7	8	9	9
30	19	15	11	8	6	8	8	9	8	8	9	12
40	30	14	11	17	6	8	18	9	8	8	16	21
60	20	14	13	7	7	9	8	8	8	8	9	12
100	35	14	12	7	7	8	9	8	8	8	10	13
120	102	23	21	22	21	9	10	9	9	9	11	15
200	101	21	21	22	21	10	12	12	13	11	15	23
300	101	21	21	21	21	12	14	14	11	11	14	24
400	101	21	21	23	21	13	14	15	15	15	18	28
600	102	22	21	21	21	16	16	15	16	15	21	32
1200	102	21	22	22	21	17	18	17	22	19	22	26

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NVLAP Code: 20/E09
LF AC Voltage

	Best Uncertainty (±) in ppm[note 1] *Frequency in Hertz*			
Range in Volts	*100 k*	*200 k*	*500 k*	*1 M*
1	4	75	82	86
2	10	74	74	76
3	11	72	77	81
4	10	71	71	71
6	9	73	75	81
10	11	72	71	74
12	13	72	73	72
20	11	71	72	71
30	14	72	77	78
40	21	91	106	71
60	14	72	74	73

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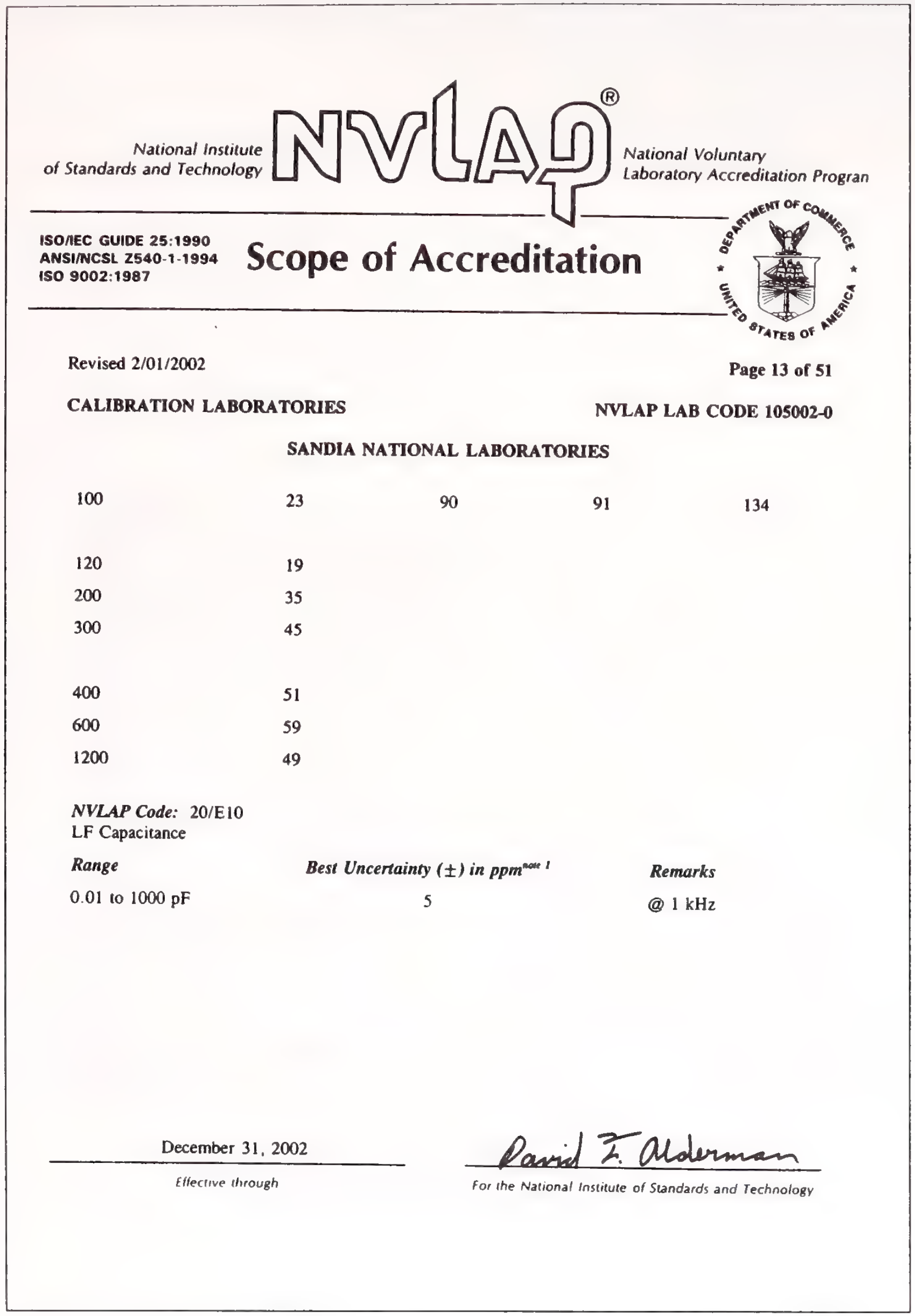

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100	23	90	91	134
120	19			
200	35			
300	45			
400	51			
600	59			
1200	49			

NVLAP Code: 20/E10
LF Capacitance

Range	*Best Uncertainty (±) in ppm*[note 1]	*Remarks*
0.01 to 1000 pF	5	@ 1 kHz

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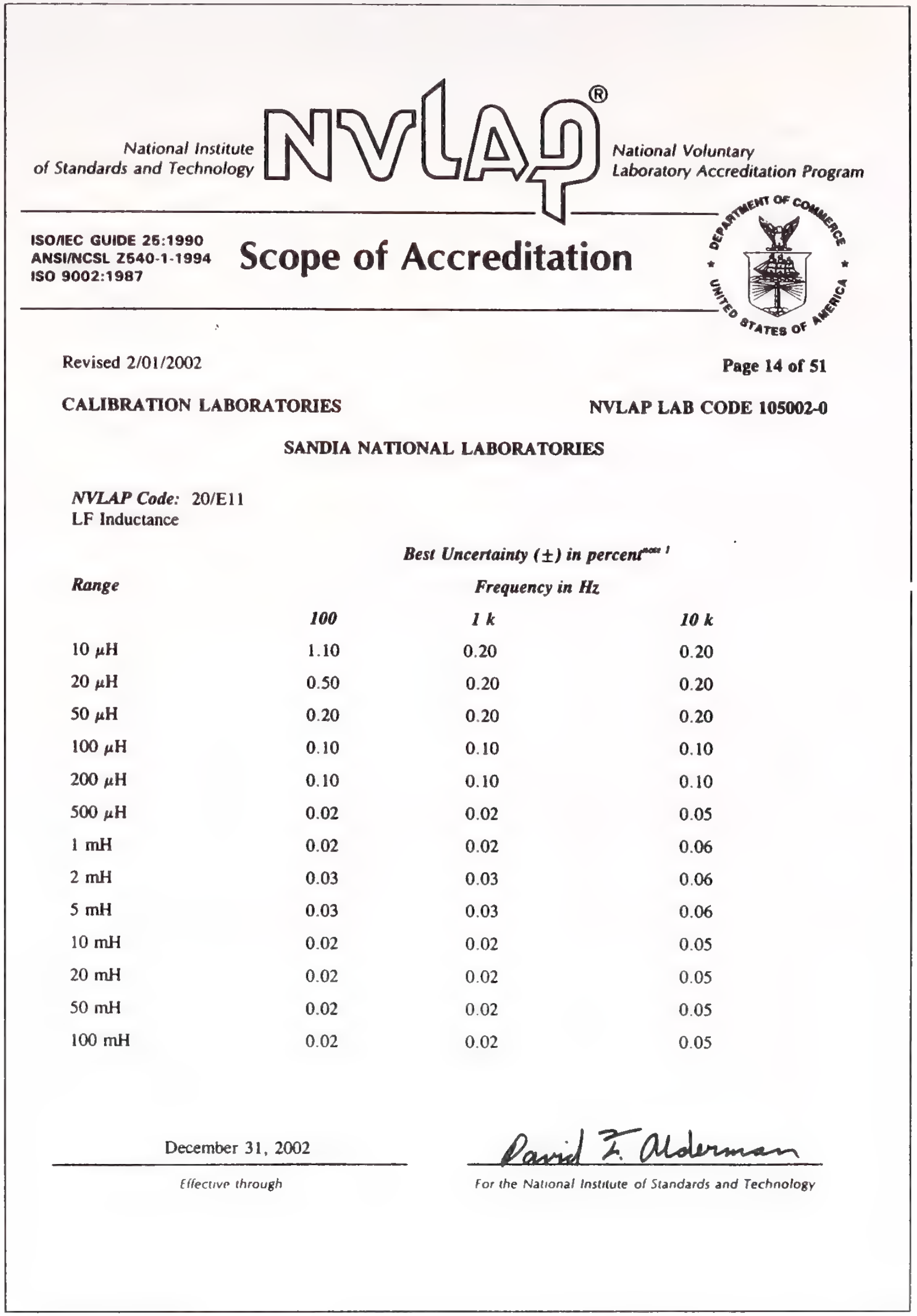

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NVLAP Code: 20/E11
LF Inductance

Range	*Best Uncertainty (±) in percent*[note 1] *Frequency in Hz* *100*	*1 k*	*10 k*
10 μH	1.10	0.20	0.20
20 μH	0.50	0.20	0.20
50 μH	0.20	0.20	0.20
100 μH	0.10	0.10	0.10
200 μH	0.10	0.10	0.10
500 μH	0.02	0.02	0.05
1 mH	0.02	0.02	0.06
2 mH	0.03	0.03	0.06
5 mH	0.03	0.03	0.06
10 mH	0.02	0.02	0.05
20 mH	0.02	0.02	0.05
50 mH	0.02	0.02	0.05
100 mH	0.02	0.02	0.05

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200 mH	0.02	0.02
500 mH	0.02	0.02
1 H	0.02	0.05
2 H	0.02	0.05
5 H	0.02	0.10
10 H	0.02	0.20

NVLAP Code: 20/E18
Resistive Dividers - Pulsed High-Voltage Condition

Range	*Best Uncertainty (±) in percent*$^{note\ 1}$	*Remarks*
1 to 350 kV	1.0	1 to 30 μs Pulse

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TIME AND FREQUENCY

NVLAP Code: 20/F01
Frequency Dissemination

Range	*Best Uncertainty (±)*$^{note\ 1}$	*Remarks*
0.1 MHz	1 part in 10^{12}	
1 MHz	1 part in 10^{12}	
5 MHz	1 part in 10^{12}	
10 MHz	1 part in 10^{12}	

IONIZING RADIATION

NVLAP Code: 20/I04
Radioactive Sources

Range	*Best Uncertainty (±)*$^{note\ 1}$	*Remarks*
Alpha Emission Rate		
1 to 2 x 10^5 /s into 2π	1.6 %	
Beta Emission Rate		
50 to 5000 /s into 2π	5.0 %	
Alpha Energy		
3 to 8 MeV	30 keV	

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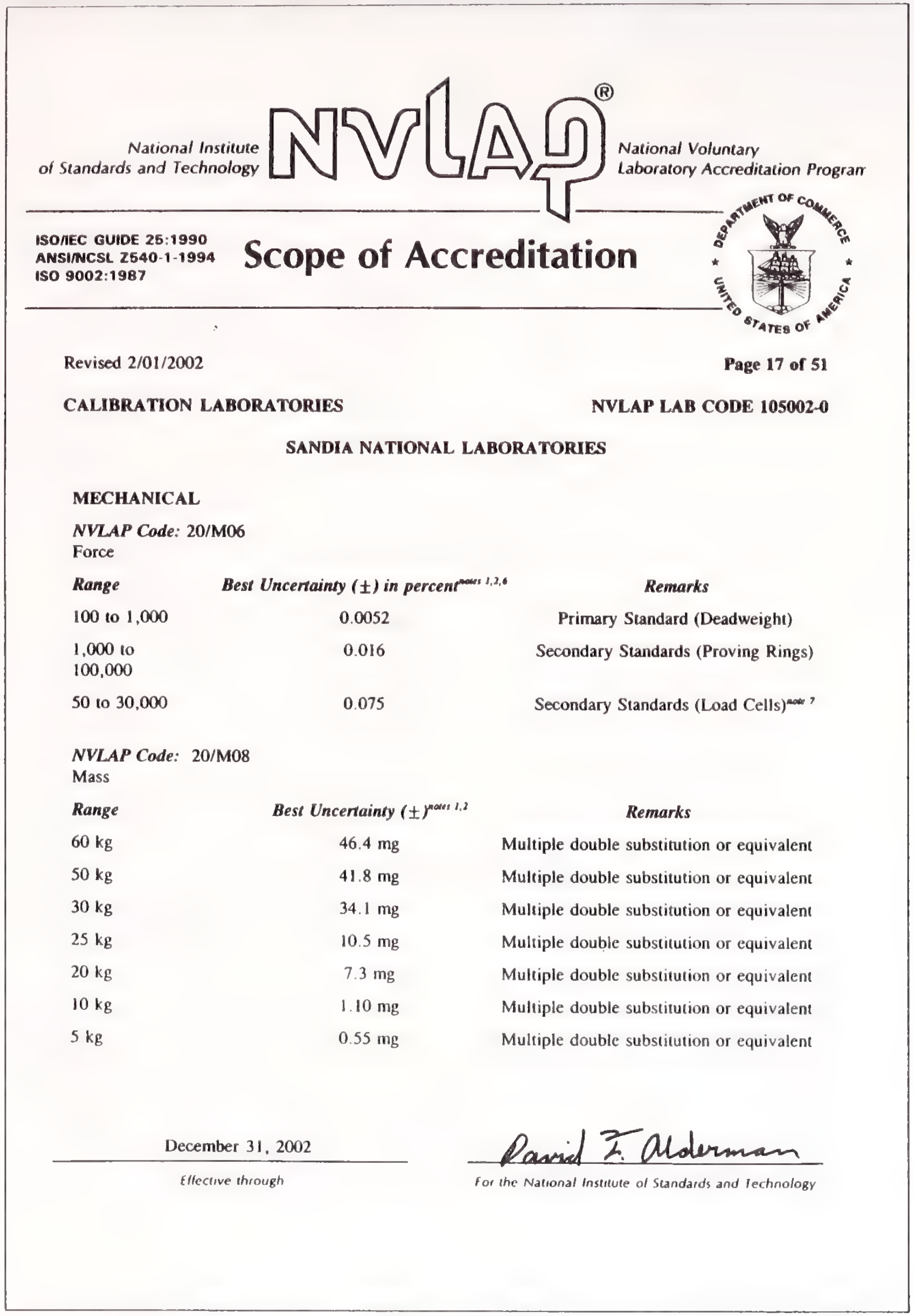

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MECHANICAL

NVLAP Code: 20/M06
Force

Range	***Best Uncertainty (±) in percent***[notes 1,2,6]	***Remarks***
100 to 1,000	0.0052	Primary Standard (Deadweight)
1,000 to 100,000	0.016	Secondary Standards (Proving Rings)
50 to 30,000	0.075	Secondary Standards (Load Cells)[note 7]

NVLAP Code: 20/M08
Mass

Range	***Best Uncertainty (±)***[notes 1,2]	***Remarks***
60 kg	46.4 mg	Multiple double substitution or equivalent
50 kg	41.8 mg	Multiple double substitution or equivalent
30 kg	34.1 mg	Multiple double substitution or equivalent
25 kg	10.5 mg	Multiple double substitution or equivalent
20 kg	7.3 mg	Multiple double substitution or equivalent
10 kg	1.10 mg	Multiple double substitution or equivalent
5 kg	0.55 mg	Multiple double substitution or equivalent

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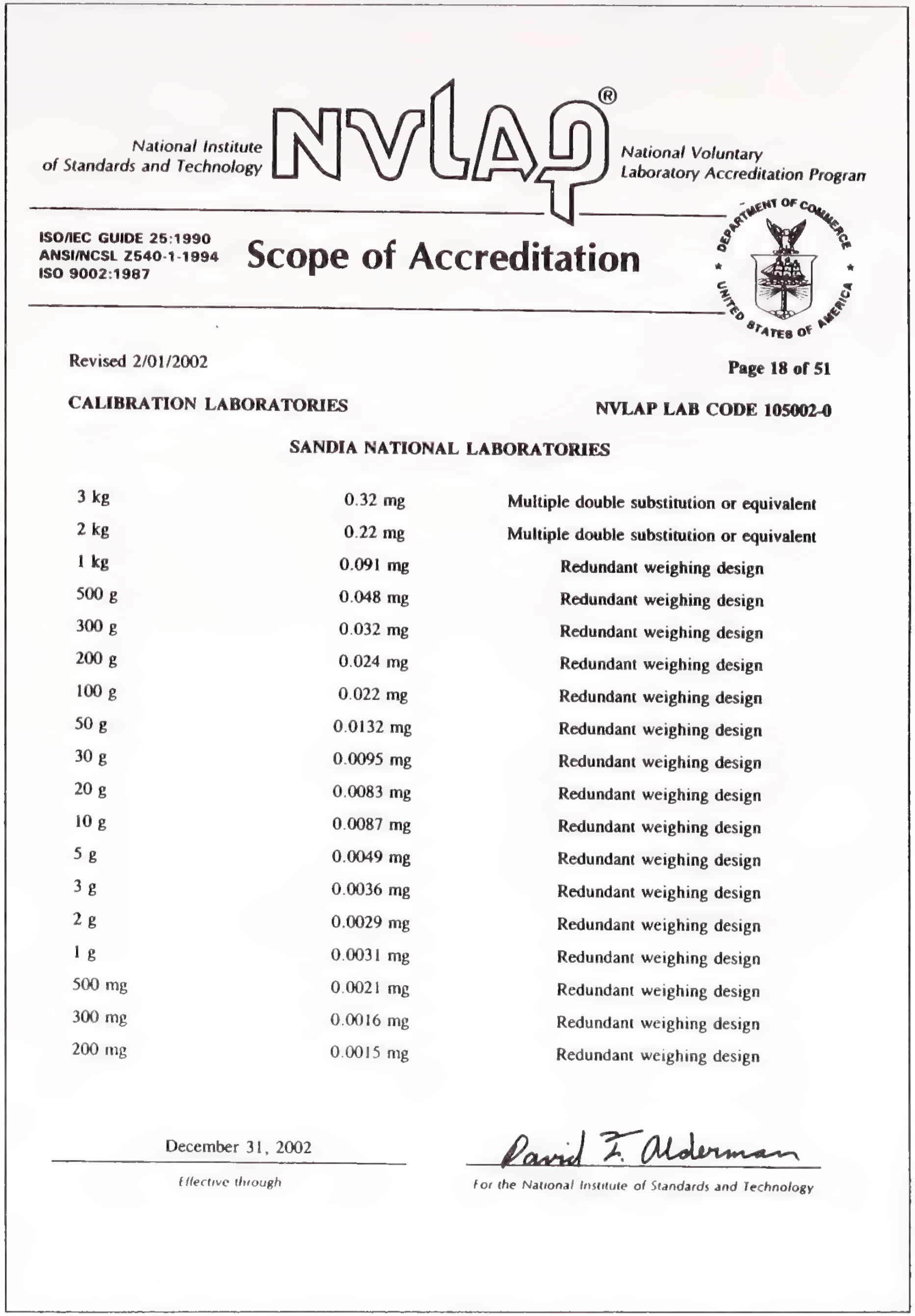

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3 kg	0.32 mg	Multiple double substitution or equivalent
2 kg	0.22 mg	Multiple double substitution or equivalent
1 kg	0.091 mg	Redundant weighing design
500 g	0.048 mg	Redundant weighing design
300 g	0.032 mg	Redundant weighing design
200 g	0.024 mg	Redundant weighing design
100 g	0.022 mg	Redundant weighing design
50 g	0.0132 mg	Redundant weighing design
30 g	0.0095 mg	Redundant weighing design
20 g	0.0083 mg	Redundant weighing design
10 g	0.0087 mg	Redundant weighing design
5 g	0.0049 mg	Redundant weighing design
3 g	0.0036 mg	Redundant weighing design
2 g	0.0029 mg	Redundant weighing design
1 g	0.0031 mg	Redundant weighing design
500 mg	0.0021 mg	Redundant weighing design
300 mg	0.0016 mg	Redundant weighing design
200 mg	0.0015 mg	Redundant weighing design

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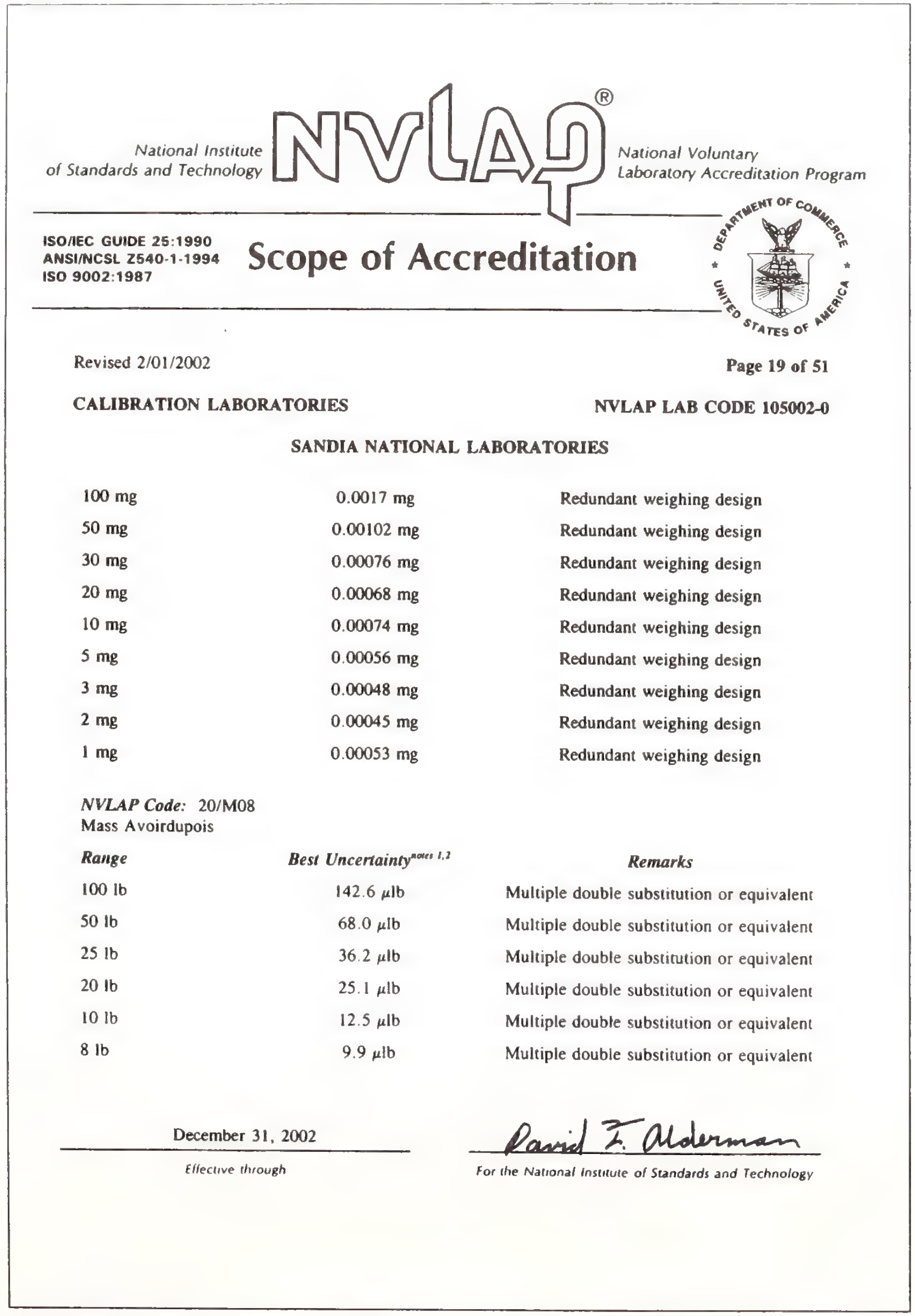

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100 mg	0.0017 mg	Redundant weighing design
50 mg	0.00102 mg	Redundant weighing design
30 mg	0.00076 mg	Redundant weighing design
20 mg	0.00068 mg	Redundant weighing design
10 mg	0.00074 mg	Redundant weighing design
5 mg	0.00056 mg	Redundant weighing design
3 mg	0.00048 mg	Redundant weighing design
2 mg	0.00045 mg	Redundant weighing design
1 mg	0.00053 mg	Redundant weighing design

NVLAP Code: 20/M08
Mass Avoirdupois

Range	*Best Uncertainty*notes 1,2	*Remarks*
100 lb	142.6 µlb	Multiple double substitution or equivalent
50 lb	68.0 µlb	Multiple double substitution or equivalent
25 lb	36.2 µlb	Multiple double substitution or equivalent
20 lb	25.1 µlb	Multiple double substitution or equivalent
10 lb	12.5 µlb	Multiple double substitution or equivalent
8 lb	9.9 µlb	Multiple double substitution or equivalent

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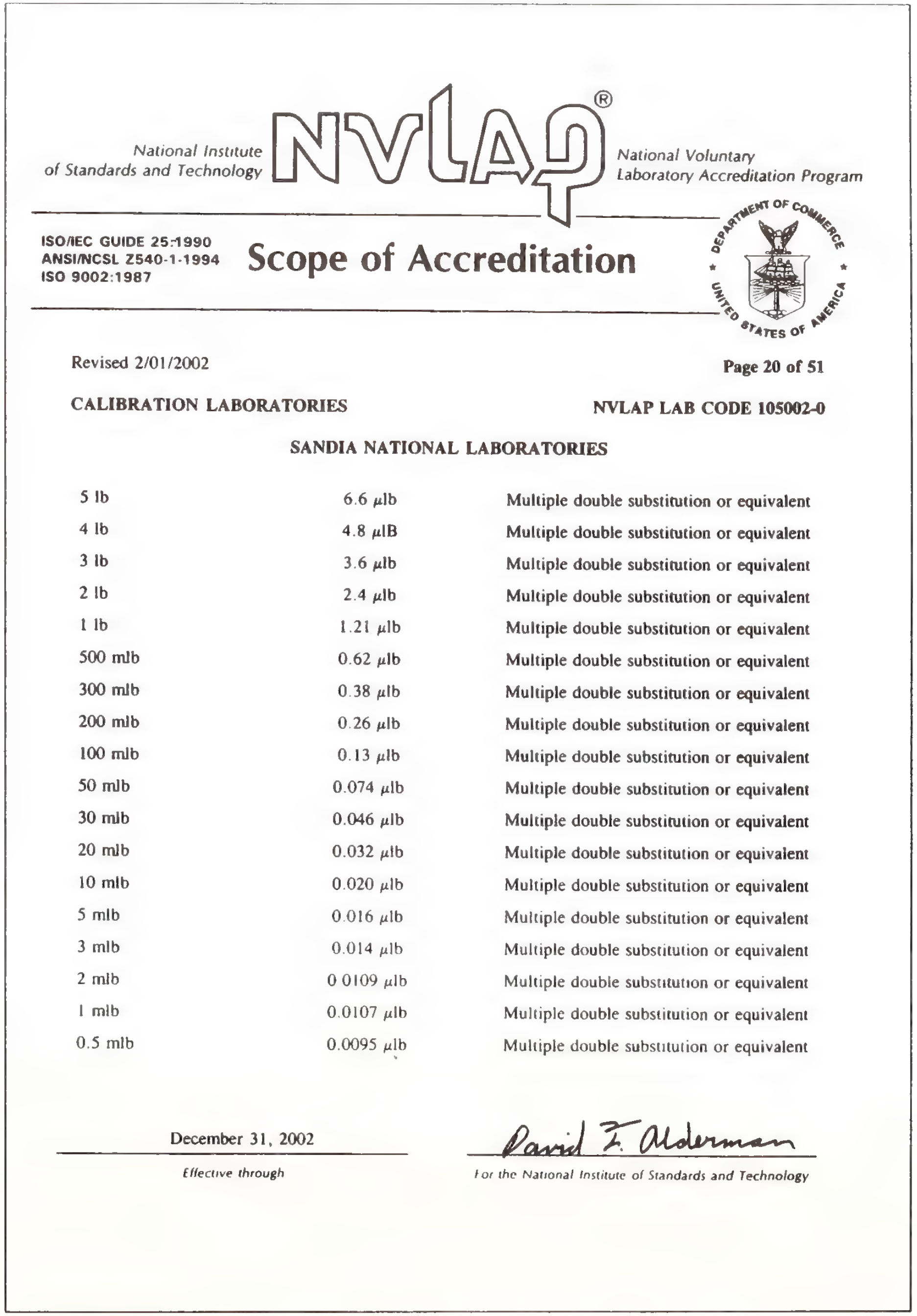

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5 lb	6.6 µlb	Multiple double substitution or equivalent
4 lb	4.8 µlB	Multiple double substitution or equivalent
3 lb	3.6 µlb	Multiple double substitution or equivalent
2 lb	2.4 µlb	Multiple double substitution or equivalent
1 lb	1.21 µlb	Multiple double substitution or equivalent
500 mlb	0.62 µlb	Multiple double substitution or equivalent
300 mlb	0.38 µlb	Multiple double substitution or equivalent
200 mlb	0.26 µlb	Multiple double substitution or equivalent
100 mlb	0.13 µlb	Multiple double substitution or equivalent
50 mlb	0.074 µlb	Multiple double substitution or equivalent
30 mlb	0.046 µlb	Multiple double substitution or equivalent
20 mlb	0.032 µlb	Multiple double substitution or equivalent
10 mlb	0.020 µlb	Multiple double substitution or equivalent
5 mlb	0.016 µlb	Multiple double substitution or equivalent
3 mlb	0.014 µlb	Multiple double substitution or equivalent
2 mlb	0.0109 µlb	Multiple double substitution or equivalent
1 mlb	0.0107 µlb	Multiple double substitution or equivalent
0.5 mlb	0.0095 µlb	Multiple double substitution or equivalent

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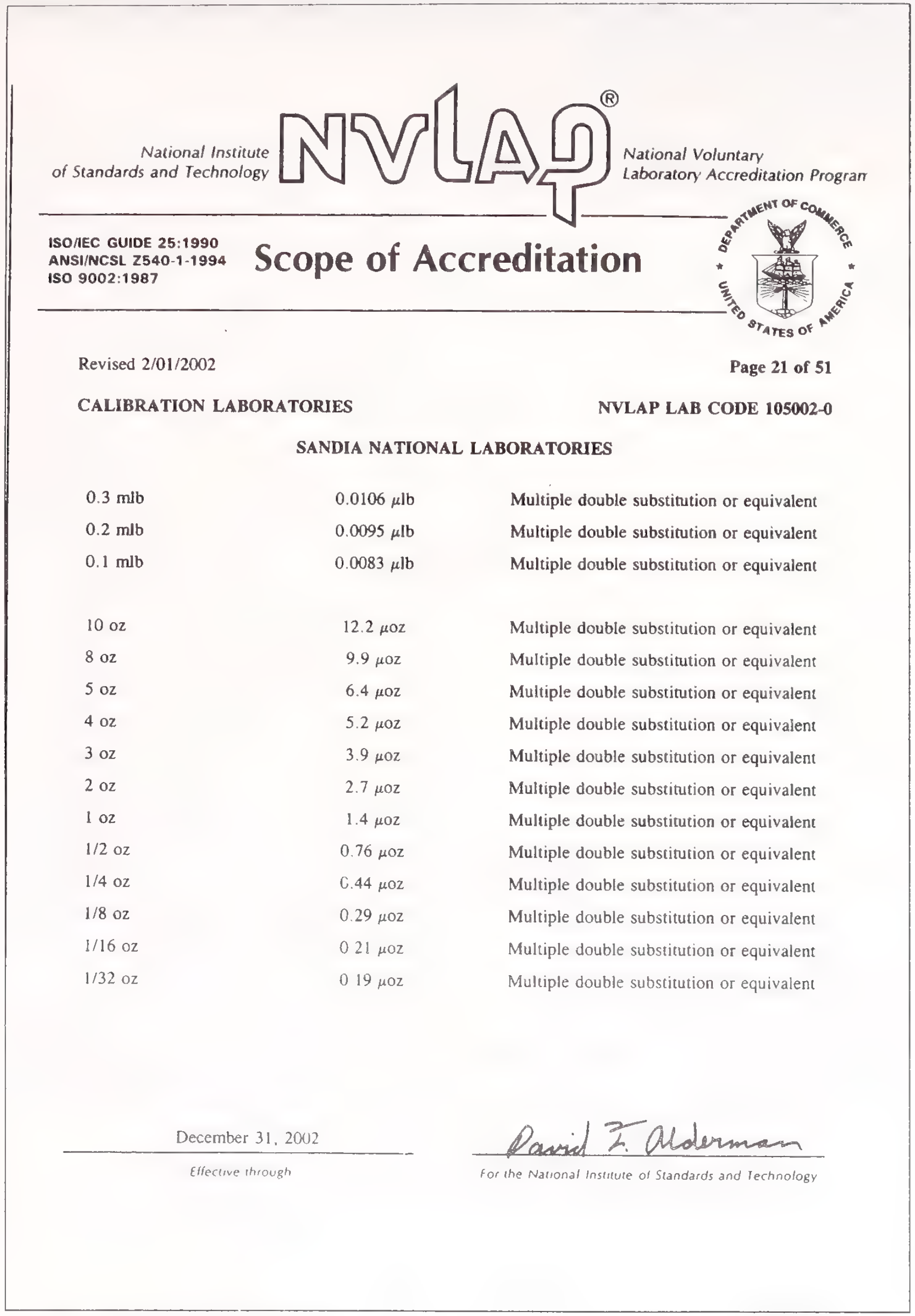

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0.3 mlb	0.0106 μlb	Multiple double substitution or equivalent
0.2 mlb	0.0095 μlb	Multiple double substitution or equivalent
0.1 mlb	0.0083 μlb	Multiple double substitution or equivalent
10 oz	12.2 μoz	Multiple double substitution or equivalent
8 oz	9.9 μoz	Multiple double substitution or equivalent
5 oz	6.4 μoz	Multiple double substitution or equivalent
4 oz	5.2 μoz	Multiple double substitution or equivalent
3 oz	3.9 μoz	Multiple double substitution or equivalent
2 oz	2.7 μoz	Multiple double substitution or equivalent
1 oz	1.4 μoz	Multiple double substitution or equivalent
1/2 oz	0.76 μoz	Multiple double substitution or equivalent
1/4 oz	0.44 μoz	Multiple double substitution or equivalent
1/8 oz	0.29 μoz	Multiple double substitution or equivalent
1/16 oz	0.21 μoz	Multiple double substitution or equivalent
1/32 oz	0.19 μoz	Multiple double substitution or equivalent

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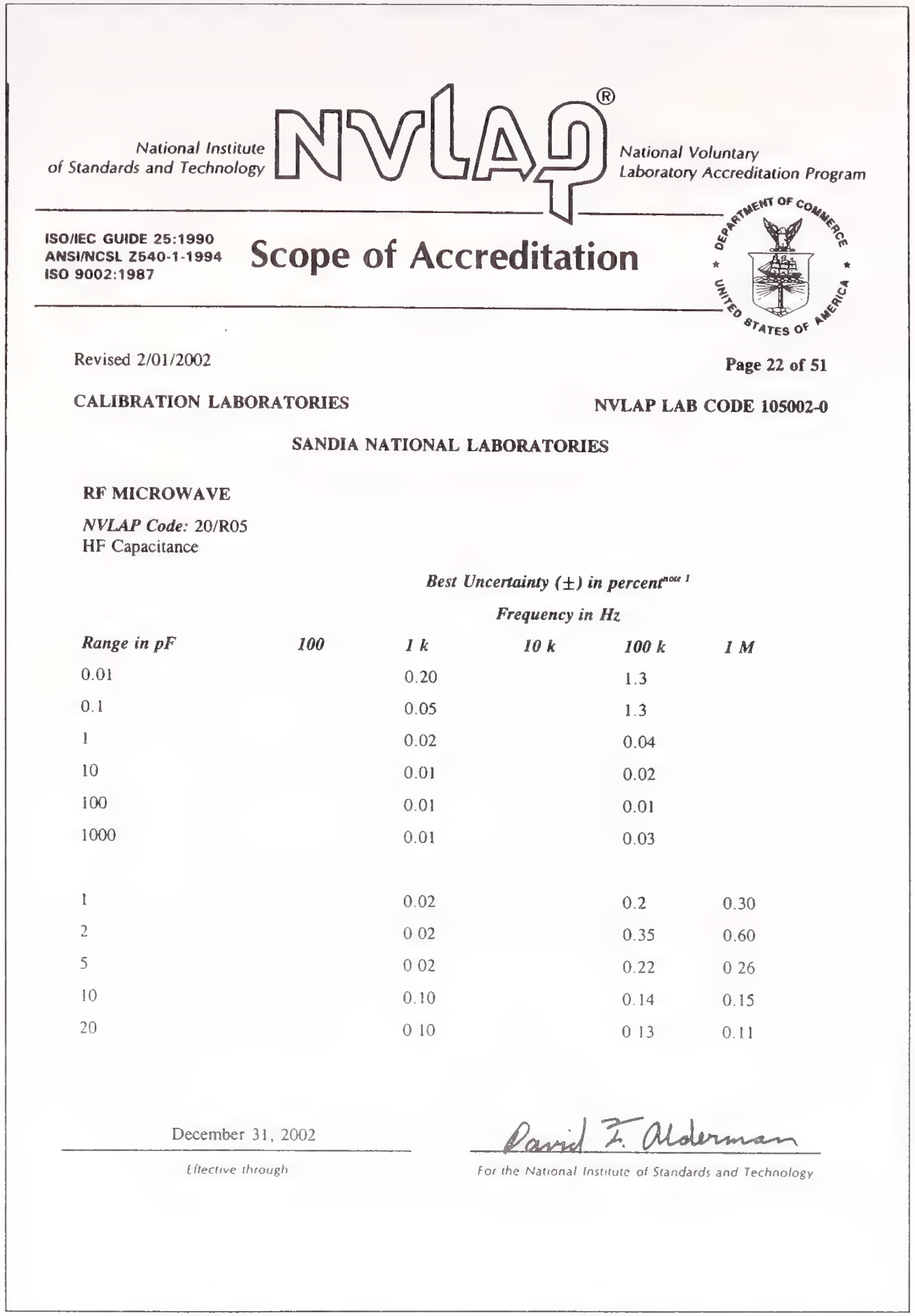

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RF MICROWAVE

NVLAP Code: 20/R05
HF Capacitance

Best Uncertainty (±) in percent$^{\text{note 1}}$

Frequency in Hz

Range in pF	*100*	*1 k*	*10 k*	*100 k*	*1 M*
0.01		0.20		1.3	
0.1		0.05		1.3	
1		0.02		0.04	
10		0.01		0.02	
100		0.01		0.01	
1000		0.01		0.03	
1		0.02		0.2	0.30
2		0.02		0.35	0.60
5		0.02		0.22	0.26
10		0.10		0.14	0.15
20		0.10		0.13	0.11

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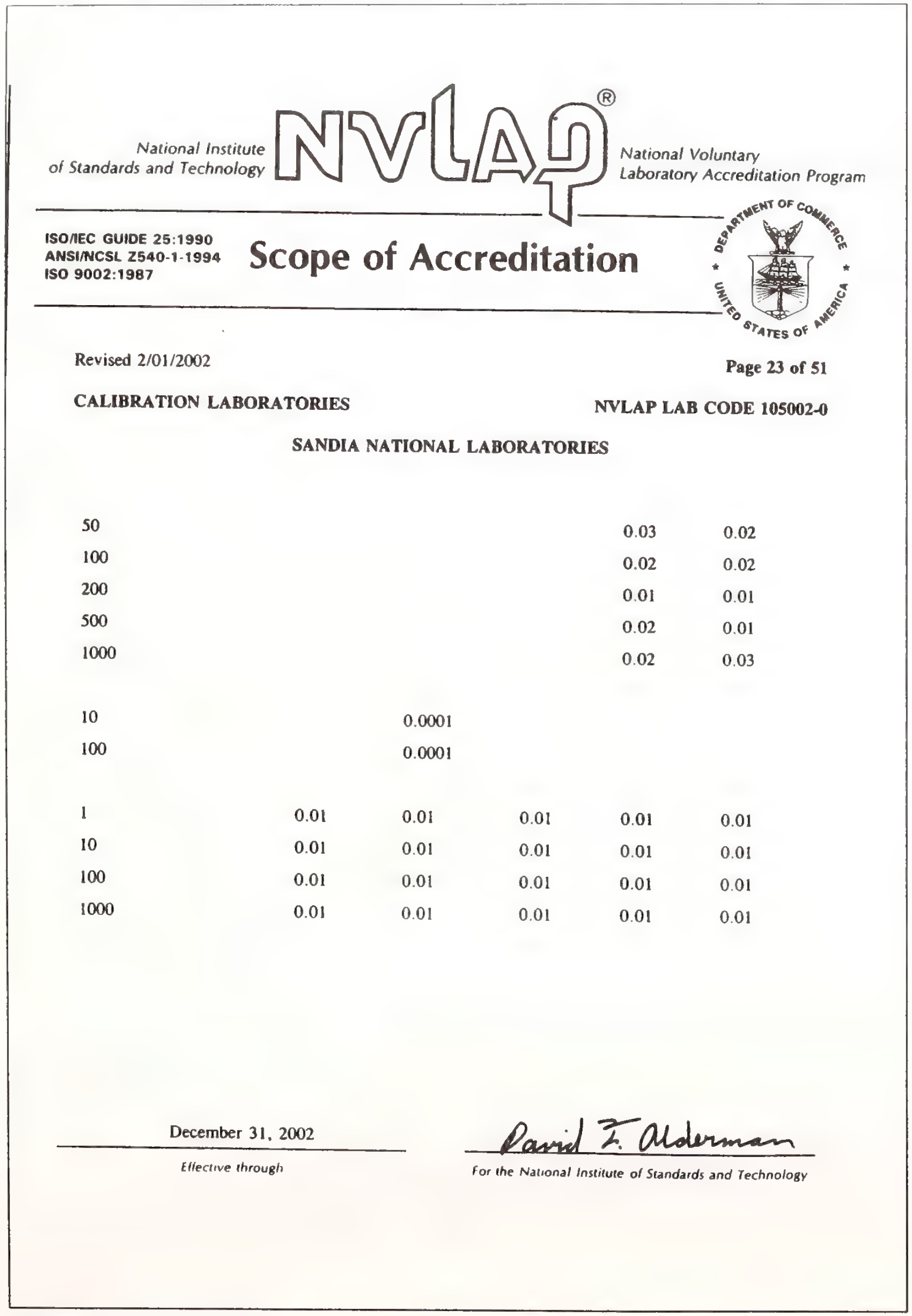

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50				0.03	0.02
100				0.02	0.02
200				0.01	0.01
500				0.02	0.01
1000				0.02	0.03
10		0.0001			
100		0.0001			
1	0.01	0.01	0.01	0.01	0.01
10	0.01	0.01	0.01	0.01	0.01
100	0.01	0.01	0.01	0.01	0.01
1000	0.01	0.01	0.01	0.01	0.01

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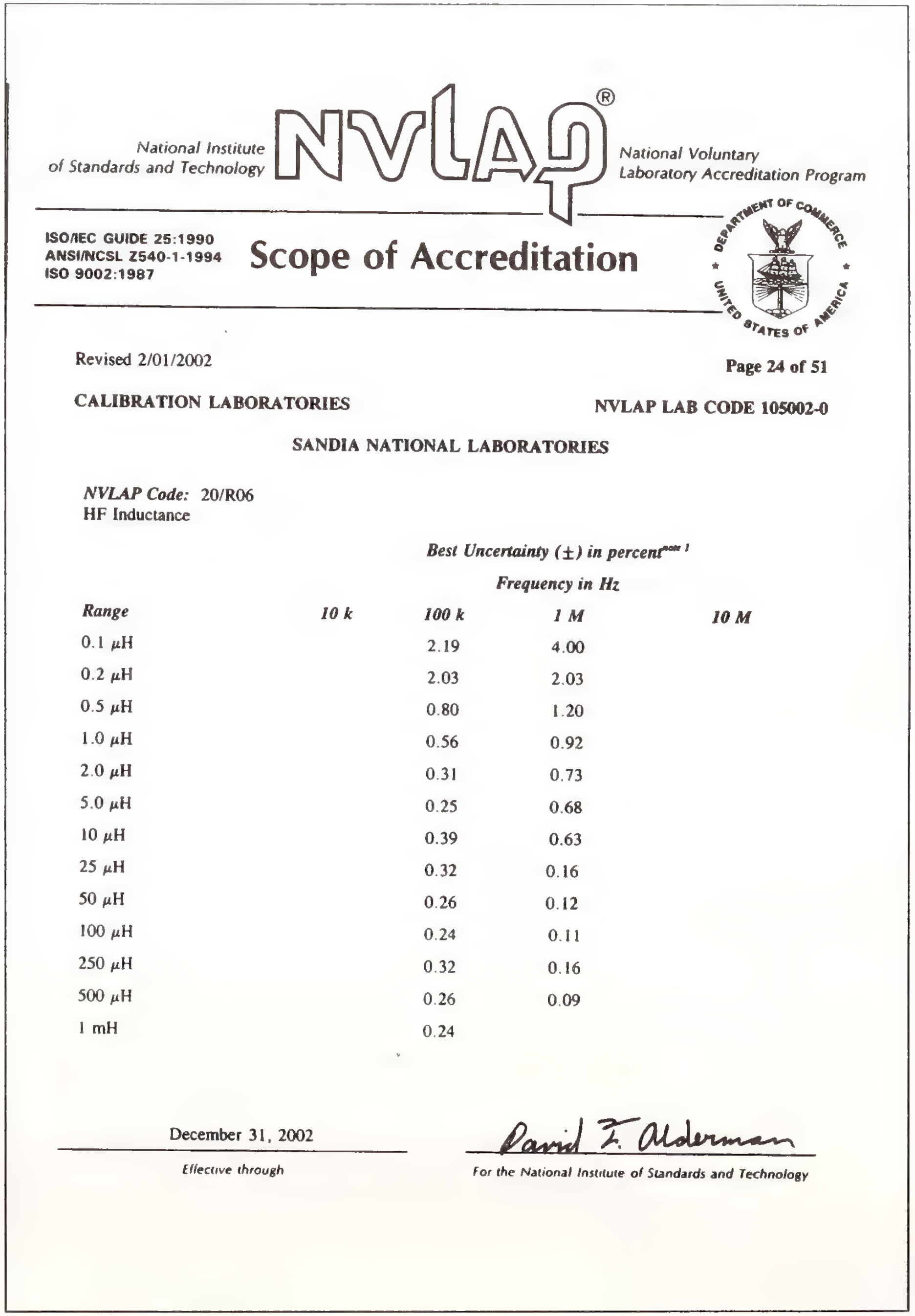

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NVLAP Code: 20/R06
HF Inductance

Best Uncertainty (±) in percent $^{note\ 1}$

Frequency in Hz

Range	***10 k***	***100 k***	***1 M***	***10 M***
0.1 μH		2.19	4.00	
0.2 μH		2.03	2.03	
0.5 μH		0.80	1.20	
1.0 μH		0.56	0.92	
2.0 μH		0.31	0.73	
5.0 μH		0.25	0.68	
10 μH		0.39	0.63	
25 μH		0.32	0.16	
50 μH		0.26	0.12	
100 μH		0.24	0.11	
250 μH		0.32	0.16	
500 μH		0.26	0.09	
1 mH		0.24		

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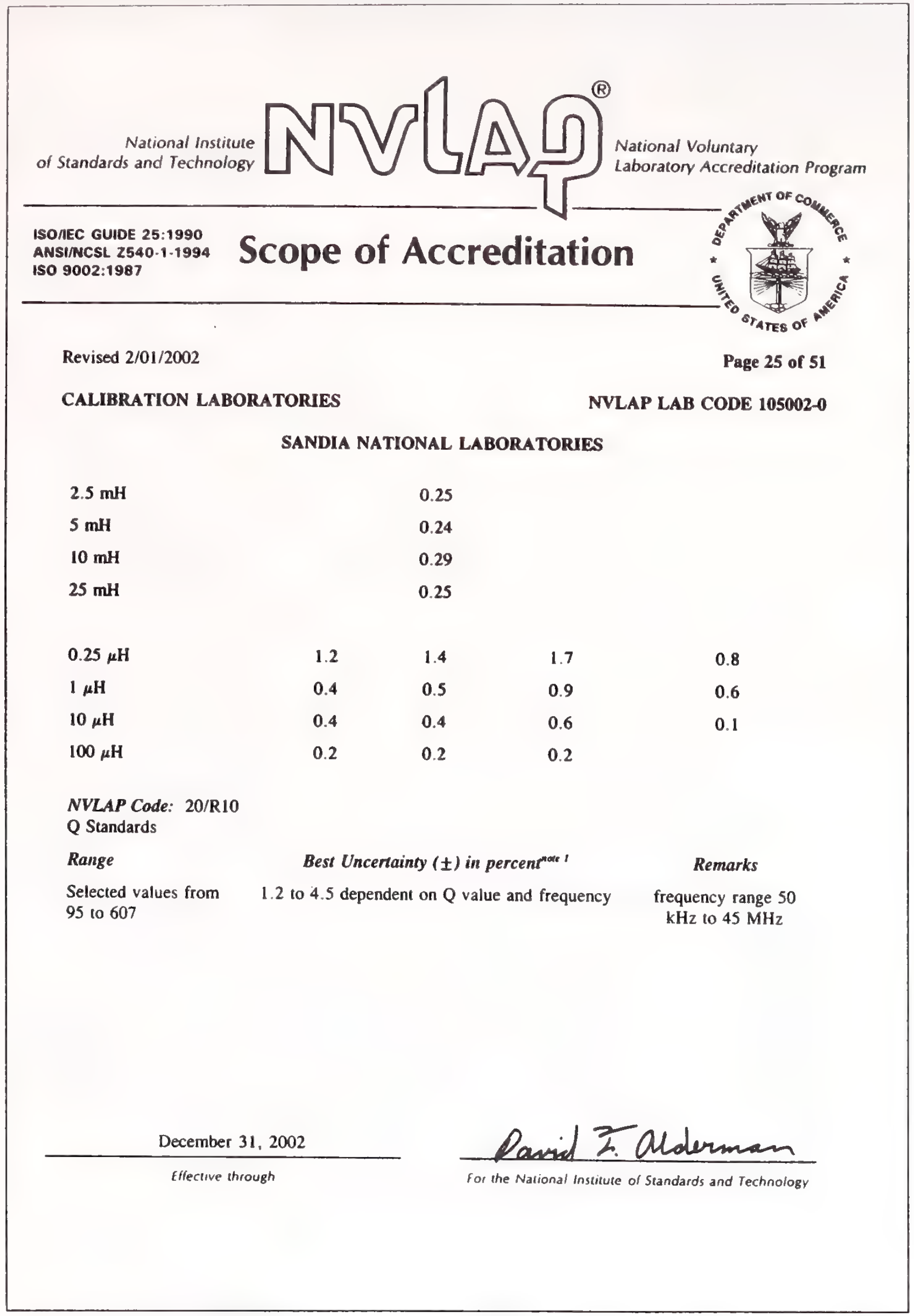

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2.5 mH		0.25		
5 mH		0.24		
10 mH		0.29		
25 mH		0.25		
0.25 µH	1.2	1.4	1.7	0.8
1 µH	0.4	0.5	0.9	0.6
10 µH	0.4	0.4	0.6	0.1
100 µH	0.2	0.2	0.2	

NVLAP Code: 20/R10
Q Standards

Range	*Best Uncertainty (±) in percent*$^{note\ 1}$	*Remarks*
Selected values from 95 to 607	1.2 to 4.5 dependent on Q value and frequency	frequency range 50 kHz to 45 MHz

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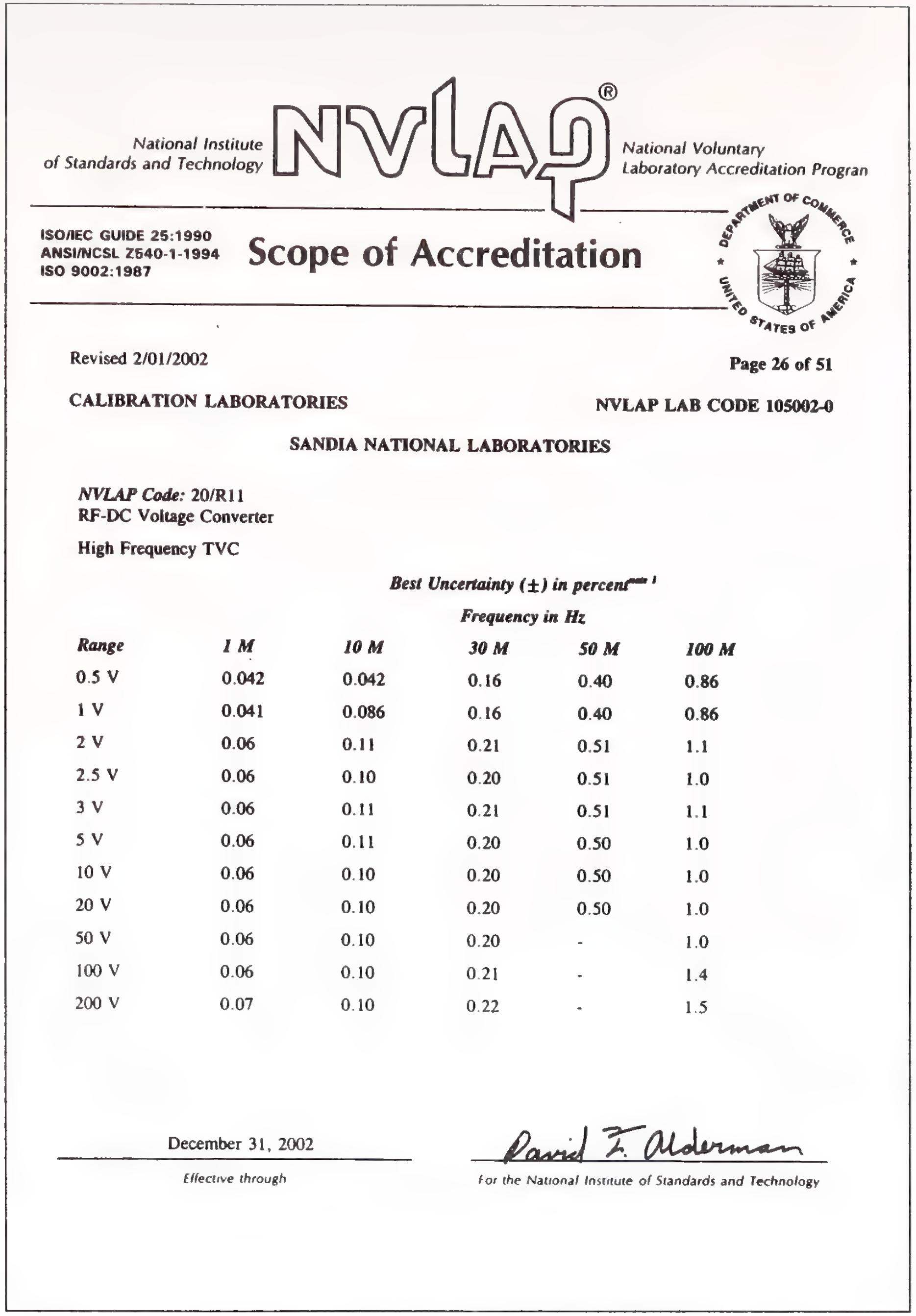

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CALIBRATION LABORATORIES **NVLAP LAB CODE 105002-0**

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NVLAP Code: 20/R11
RF-DC Voltage Converter

High Frequency TVC

Best Uncertainty (±) in percent$^{note\ 1}$

Frequency in Hz

Range	*1 M*	*10 M*	*30 M*	*50 M*	*100 M*
0.5 V	0.042	0.042	0.16	0.40	0.86
1 V	0.041	0.086	0.16	0.40	0.86
2 V	0.06	0.11	0.21	0.51	1.1
2.5 V	0.06	0.10	0.20	0.51	1.0
3 V	0.06	0.11	0.21	0.51	1.1
5 V	0.06	0.11	0.20	0.50	1.0
10 V	0.06	0.10	0.20	0.50	1.0
20 V	0.06	0.10	0.20	0.50	1.0
50 V	0.06	0.10	0.20	-	1.0
100 V	0.06	0.10	0.21	-	1.4
200 V	0.07	0.10	0.22	-	1.5

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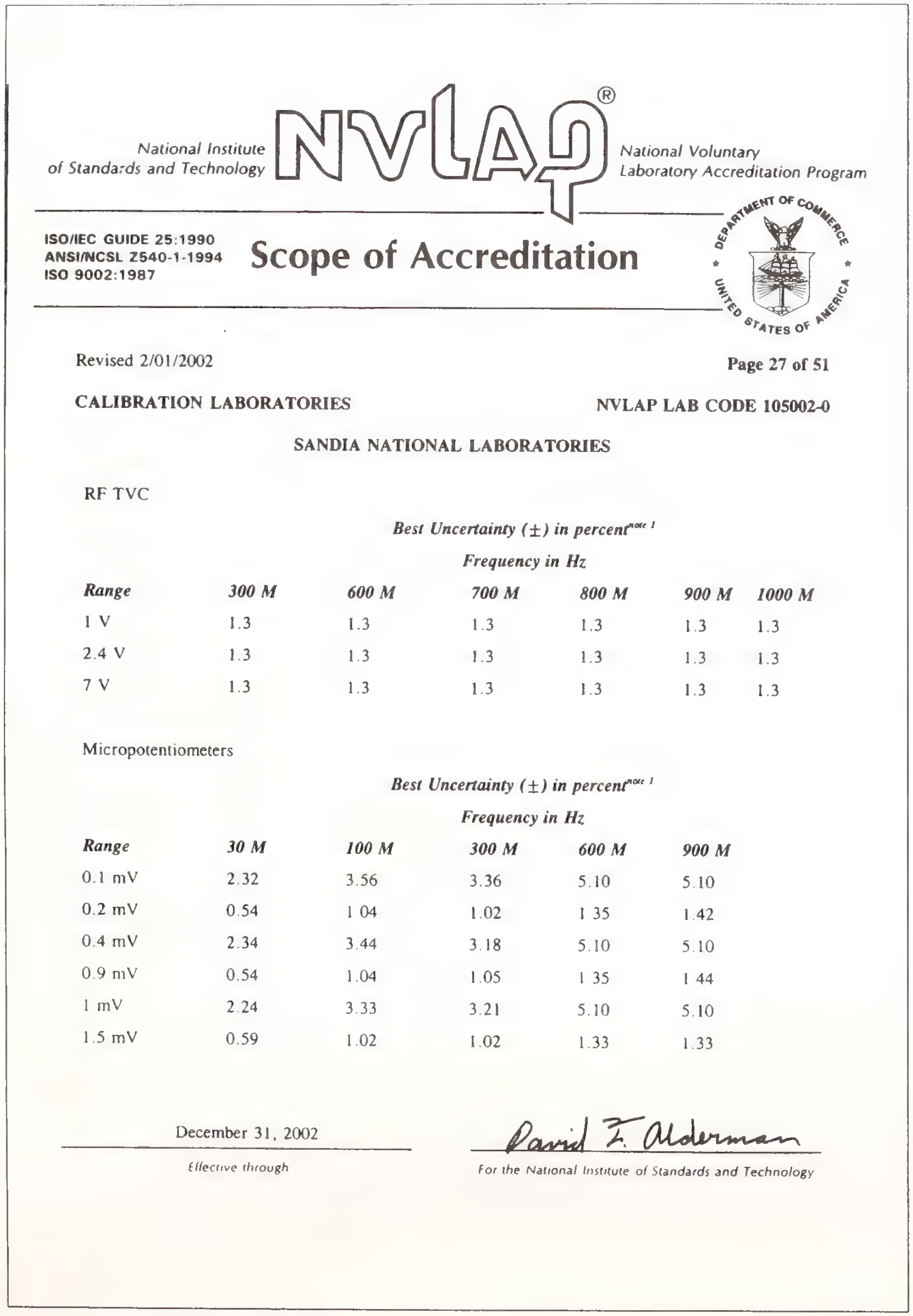

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RF TVC

Best Uncertainty (±) in percent[note 1]

Frequency in Hz

Range	*300 M*	*600 M*	*700 M*	*800 M*	*900 M*	*1000 M*
1 V	1.3	1.3	1.3	1.3	1.3	1.3
2.4 V	1.3	1.3	1.3	1.3	1.3	1.3
7 V	1.3	1.3	1.3	1.3	1.3	1.3

Micropotentiometers

Best Uncertainty (±) in percent[note 1]

Frequency in Hz

Range	*30 M*	*100 M*	*300 M*	*600 M*	*900 M*
0.1 mV	2.32	3.56	3.36	5.10	5.10
0.2 mV	0.54	1.04	1.02	1.35	1.42
0.4 mV	2.34	3.44	3.18	5.10	5.10
0.9 mV	0.54	1.04	1.05	1.35	1.44
1 mV	2.24	3.33	3.21	5.10	5.10
1.5 mV	0.59	1.02	1.02	1.33	1.33

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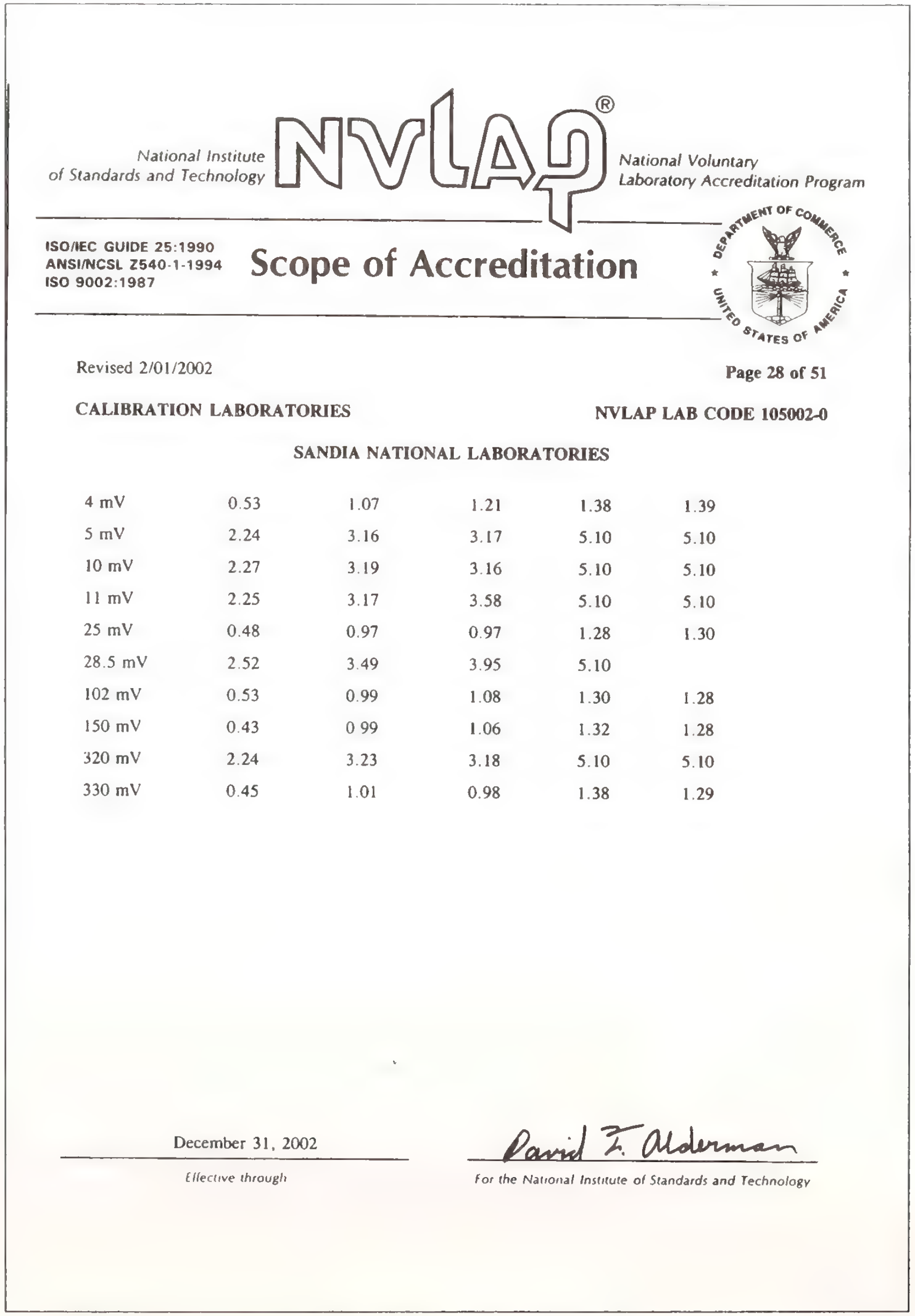

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4 mV	0.53	1.07	1.21	1.38	1.39
5 mV	2.24	3.16	3.17	5.10	5.10
10 mV	2.27	3.19	3.16	5.10	5.10
11 mV	2.25	3.17	3.58	5.10	5.10
25 mV	0.48	0.97	0.97	1.28	1.30
28.5 mV	2.52	3.49	3.95	5.10	
102 mV	0.53	0.99	1.08	1.30	1.28
150 mV	0.43	0.99	1.06	1.32	1.28
320 mV	2.24	3.23	3.18	5.10	5.10
330 mV	0.45	1.01	0.98	1.38	1.29

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NVLAP Code: 20/R12
RF/Microwave Bolometer Units

Expanded Uncertainties$^{\text{notes } 1,2,3}$ on Effective Efficiency & Calibration Factor of HP bolometric power sensors.

Connector Type	*Quantity*	*Quantity Range*	*Frequency (MHz)* 50-2000	2000-8000	8000-12000	12000-18000
N	Calibration Factor	0.9 to 1	0.004-0.006	0.004-0.006	0.005-0.007	0.006-0.008
APC-3.5	Calibration Factor	0.9 to 1	-------	0.007-0.009	0.009-0.010	0.010-0.011
N	Effective Efficiency	0.9 to 1	0.004-0.005	0.004-0.005	0.005-0.006	0.006-0.008
APC-3.5	Effective Efficiency	0.9 to 1	-------	0.007-0.008	0.008-0.009	0.009-0.010

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NVLAP Code: 20/R13
RF/Microwave Attenuators

Reflection Coefficient (or Scattering Parameter Sii)

A. Dual 6-Port Network Analyzer Certification Uncertainties$^{\text{notes } 2,3,4}$

Connector Type	*Quantity*	*Quantity Range*	*Frequency (MHz)* 50-2000	2000-8000	8000-12000	12000-18000
GR-900	$\lvert S_{ii}\rvert$	0 to 1	0.002-0.009	0.002-0.015	------	------
N	$\lvert S_{ii}\rvert$	0 to 1	0.002-0.008	0.002-0.027	0.006-0.018	0.006-0.030
APC-7	$\lvert S_{ii}\rvert$	0 to 1	0.002-0.006	0.002-0.009	0.003-0.018	0.005-0.015
APC-3.5	$\lvert S_{ii}\rvert$	0 to 1	0.002-0.012	0.002-0.015	0.005-0.019	0.012-0.050
GR-900	Arg(S_{ii})	$0 < \lvert S_{ii}\rvert < 1$ -180 to +180 deg	0 120-180.0	0.019-180.0	------	------
N	Arg(S_{ii})	$0 < \lvert S_{ii}\rvert < 1$ -180 to +180 deg	0.360-180.0	0.300-180.0	0.600-180.0	0.800-180.0
APC-7	Arg(S_{ii})	$0 < \lvert S_{ii}\rvert < 1$ -180 to +180 deg	0.012-180.0	0.200-180.0	0.540-180.0	0.525-180.0
APC-3.5	Arg(S_{ii})	$0 < \lvert S_{ii}\rvert < 1$ -180 to +180 deg	0 360-180.0	0.240-180.0	0.540-180 0	0.560-180.0

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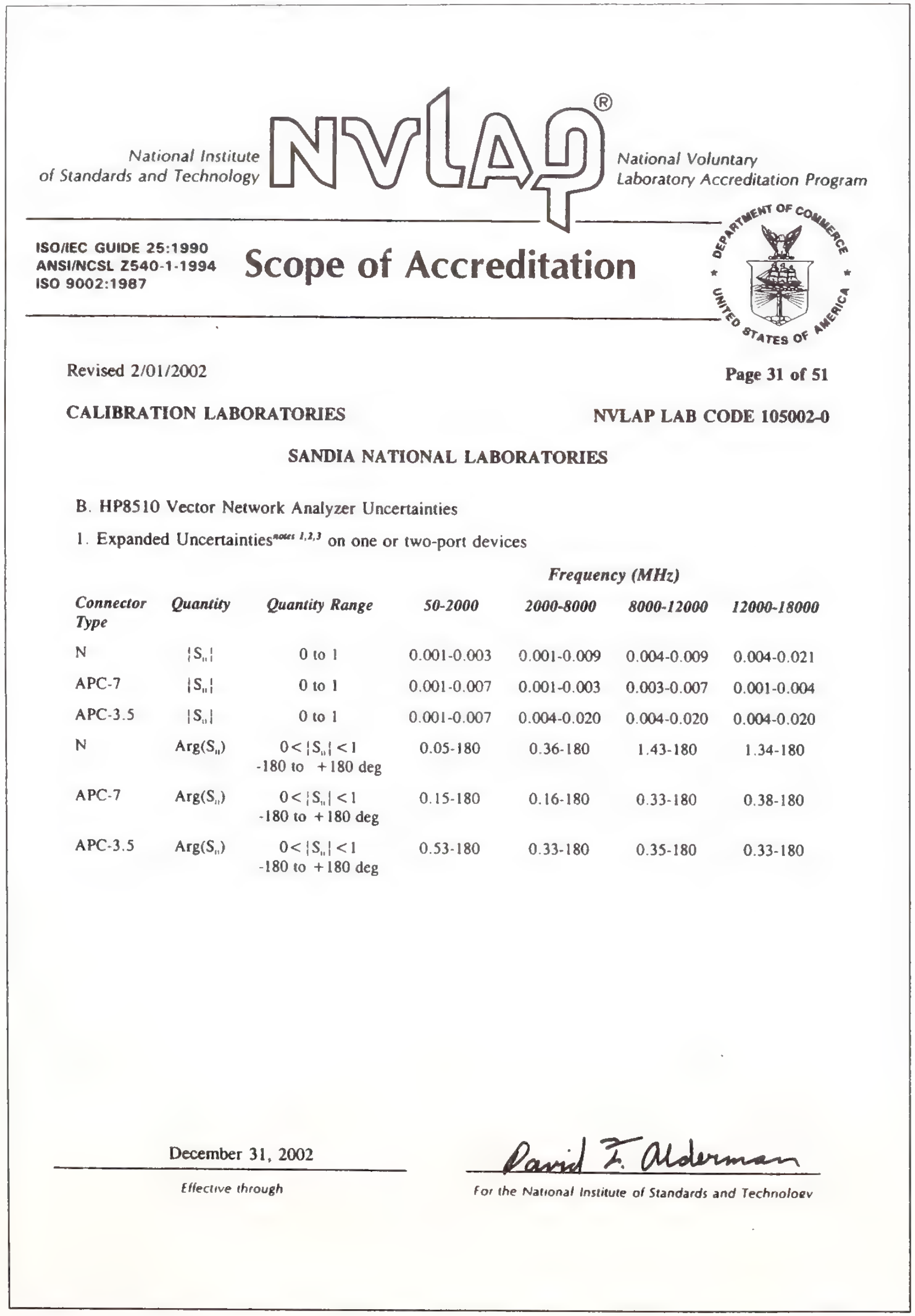

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B. HP8510 Vector Network Analyzer Uncertainties

1. Expanded Uncertainties$^{\text{notes } 1,2,3}$ on one or two-port devices

			Frequency (MHz)			
Connector Type	***Quantity***	***Quantity Range***	***50-2000***	***2000-8000***	***8000-12000***	***12000-18000***
N	$\|S_{11}\|$	0 to 1	0.001-0.003	0.001-0.009	0.004-0.009	0.004-0.021
APC-7	$\|S_{11}\|$	0 to 1	0.001-0.007	0.001-0.003	0.003-0.007	0.001-0.004
APC-3.5	$\|S_{11}\|$	0 to 1	0.001-0.007	0.004-0.020	0.004-0.020	0.004-0.020
N	Arg(S_{11})	$0<\|S_{11}\|<1$ -180 to +180 deg	0.05-180	0.36-180	1.43-180	1.34-180
APC-7	Arg(S_{11})	$0<\|S_{11}\|<1$ -180 to +180 deg	0.15-180	0.16-180	0.33-180	0.38-180
APC-3.5	Arg(S_{11})	$0<\|S_{11}\|<1$ -180 to +180 deg	0.53-180	0.33-180	0.35-180	0.33-180

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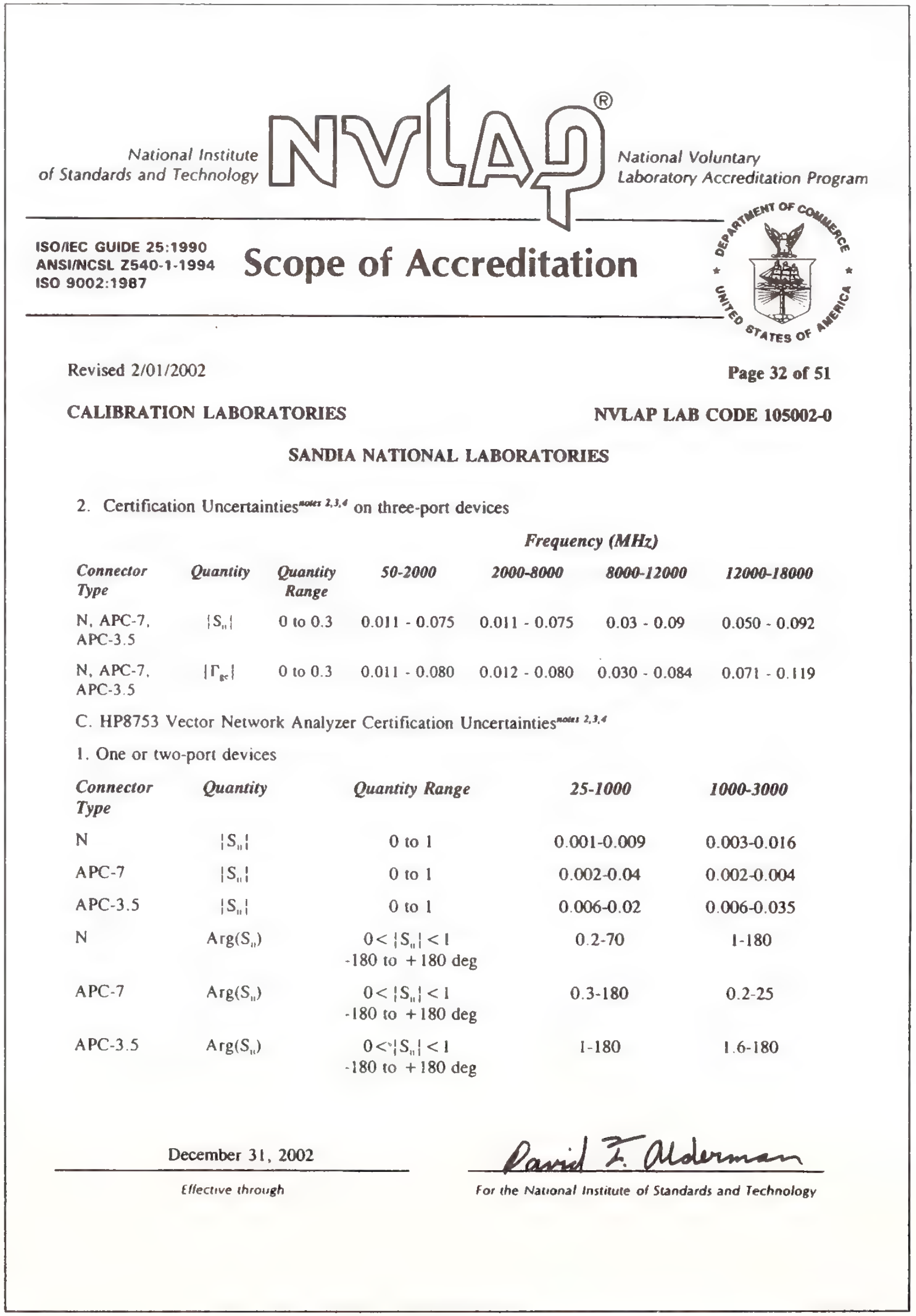

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2. Certification Uncertainties$^{\text{notes } 2,3,4}$ on three-port devices

			Frequency (MHz)			
Connector Type	***Quantity***	***Quantity Range***	***50-2000***	***2000-8000***	***8000-12000***	***12000-18000***
N, APC-7, APC-3.5	$\|S_{11}\|$	0 to 0.3	0.011 - 0.075	0.011 - 0.075	0.03 - 0.09	0.050 - 0.092
N, APC-7, APC-3.5	$\|\Gamma_{gc}\|$	0 to 0.3	0.011 - 0.080	0.012 - 0.080	0.030 - 0.084	0.071 - 0.119

C. HP8753 Vector Network Analyzer Certification Uncertainties$^{\text{notes } 2,3,4}$

1. One or two-port devices

Connector Type	***Quantity***	***Quantity Range***	***25-1000***	***1000-3000***
N	$\|S_{11}\|$	0 to 1	0.001-0.009	0.003-0.016
APC-7	$\|S_{11}\|$	0 to 1	0.002-0.04	0.002-0.004
APC-3.5	$\|S_{11}\|$	0 to 1	0.006-0.02	0.006-0.035
N	Arg(S_{11})	$0<\|S_{11}\|<1$ -180 to +180 deg	0.2-70	1-180
APC-7	Arg(S_{11})	$0<\|S_{11}\|<1$ -180 to +180 deg	0.3-180	0.2-25
APC-3.5	Arg(S_{11})	$0<\|S_{11}\|<1$ -180 to +180 deg	1-180	1.6-180

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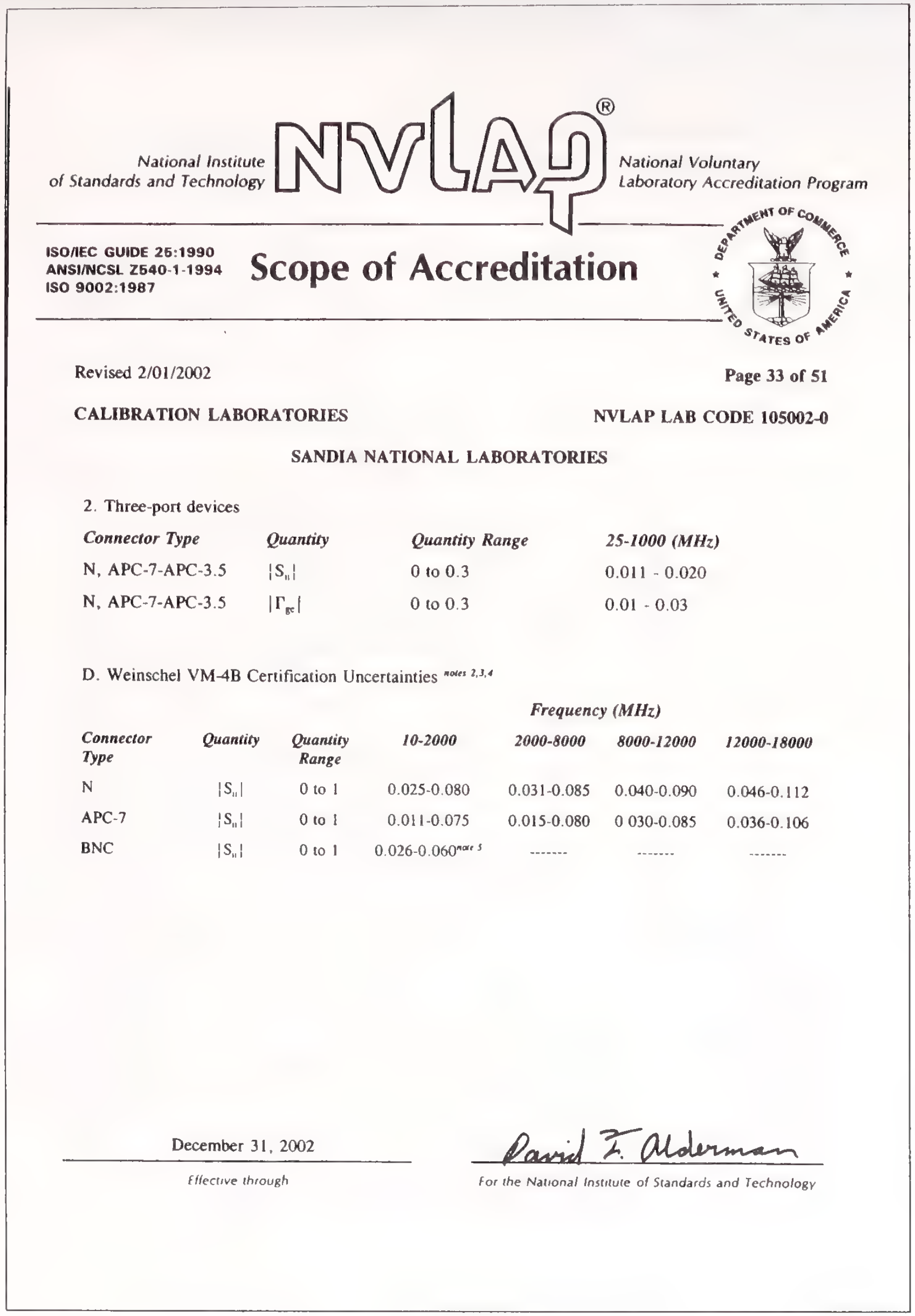

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2. Three-port devices

Connector Type	*Quantity*	*Quantity Range*	*25-1000 (MHz)*
N, APC-7-APC-3.5	$\lvert S_{ii}\rvert$	0 to 0.3	0.011 - 0.020
N, APC-7-APC-3.5	$\lvert \Gamma_{gc}\rvert$	0 to 0.3	0.01 - 0.03

D. Weinschel VM-4B Certification Uncertainties $^{\text{notes } 2,3,4}$

			Frequency (MHz)			
Connector Type	*Quantity*	*Quantity Range*	*10-2000*	*2000-8000*	*8000-12000*	*12000-18000*
N	$\lvert S_{ii}\rvert$	0 to 1	0.025-0.080	0.031-0.085	0.040-0.090	0.046-0.112
APC-7	$\lvert S_{ii}\rvert$	0 to 1	0.011-0.075	0.015-0.080	0.030-0.085	0.036-0.106
BNC	$\lvert S_{ii}\rvert$	0 to 1	0.026-0.060$^{\text{note } 5}$	-------	-------	-------

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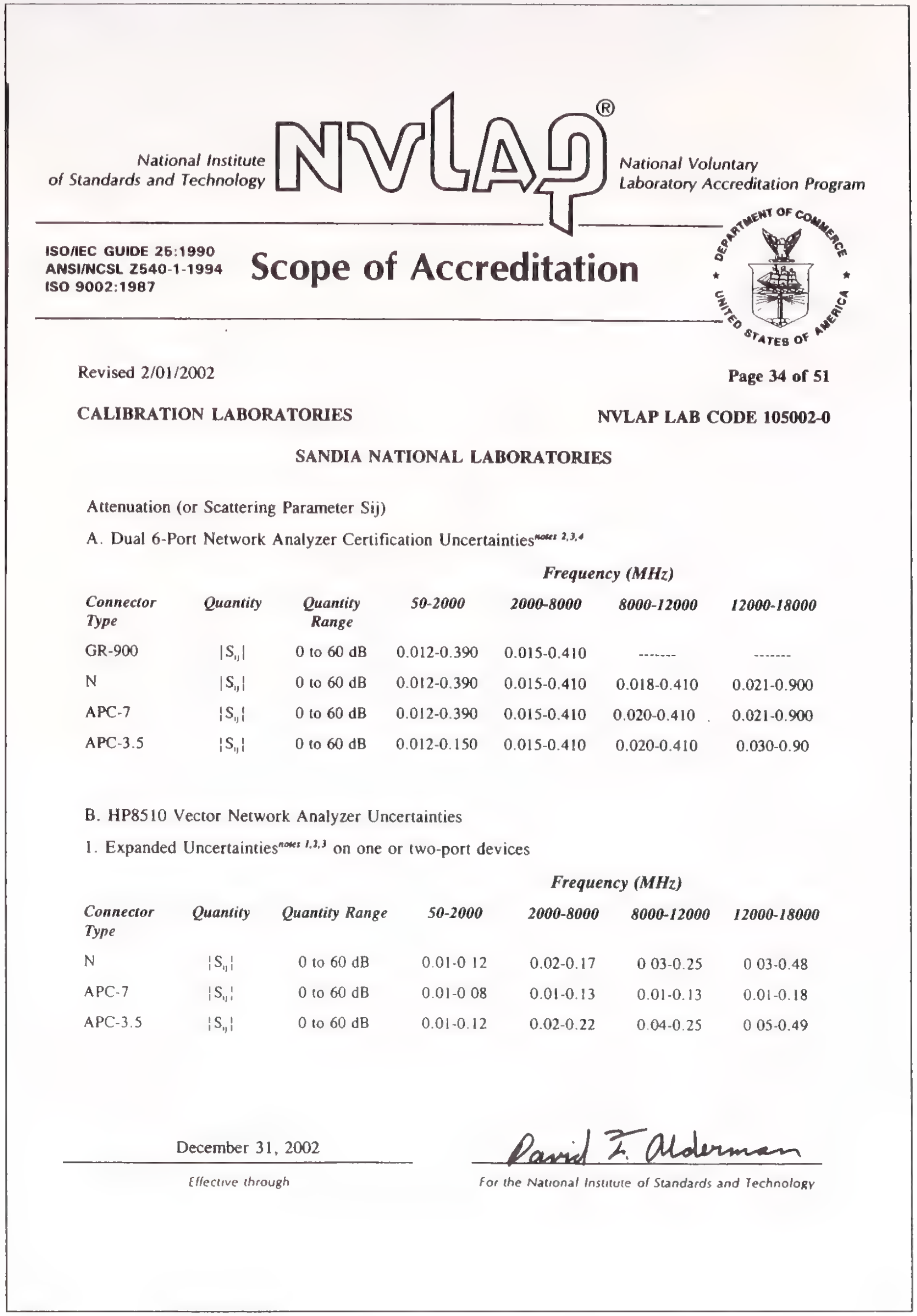

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Attenuation (or Scattering Parameter Sij)

A. Dual 6-Port Network Analyzer Certification Uncertainties$^{\text{notes } 2,3,4}$

			Frequency (MHz)			
Connector Type	*Quantity*	*Quantity Range*	*50-2000*	*2000-8000*	*8000-12000*	*12000-18000*
GR-900	$\lvert S_{ij}\rvert$	0 to 60 dB	0.012-0.390	0.015-0.410	-------	-------
N	$\lvert S_{ij}\rvert$	0 to 60 dB	0.012-0.390	0.015-0.410	0.018-0.410	0.021-0.900
APC-7	$\lvert S_{ij}\rvert$	0 to 60 dB	0.012-0.390	0.015-0.410	0.020-0.410	0.021-0.900
APC-3.5	$\lvert S_{ij}\rvert$	0 to 60 dB	0.012-0.150	0.015-0.410	0.020-0.410	0.030-0.90

B. HP8510 Vector Network Analyzer Uncertainties

1. Expanded Uncertainties$^{\text{notes } 1,2,3}$ on one or two-port devices

			Frequency (MHz)			
Connector Type	*Quantity*	*Quantity Range*	*50-2000*	*2000-8000*	*8000-12000*	*12000-18000*
N	$\lvert S_{ij}\rvert$	0 to 60 dB	0.01-0.12	0.02-0.17	0.03-0.25	0.03-0.48
APC-7	$\lvert S_{ij}\rvert$	0 to 60 dB	0.01-0.08	0.01-0.13	0.01-0.13	0.01-0.18
APC-3.5	$\lvert S_{ij}\rvert$	0 to 60 dB	0.01-0.12	0.02-0.22	0.04-0.25	0.05-0.49

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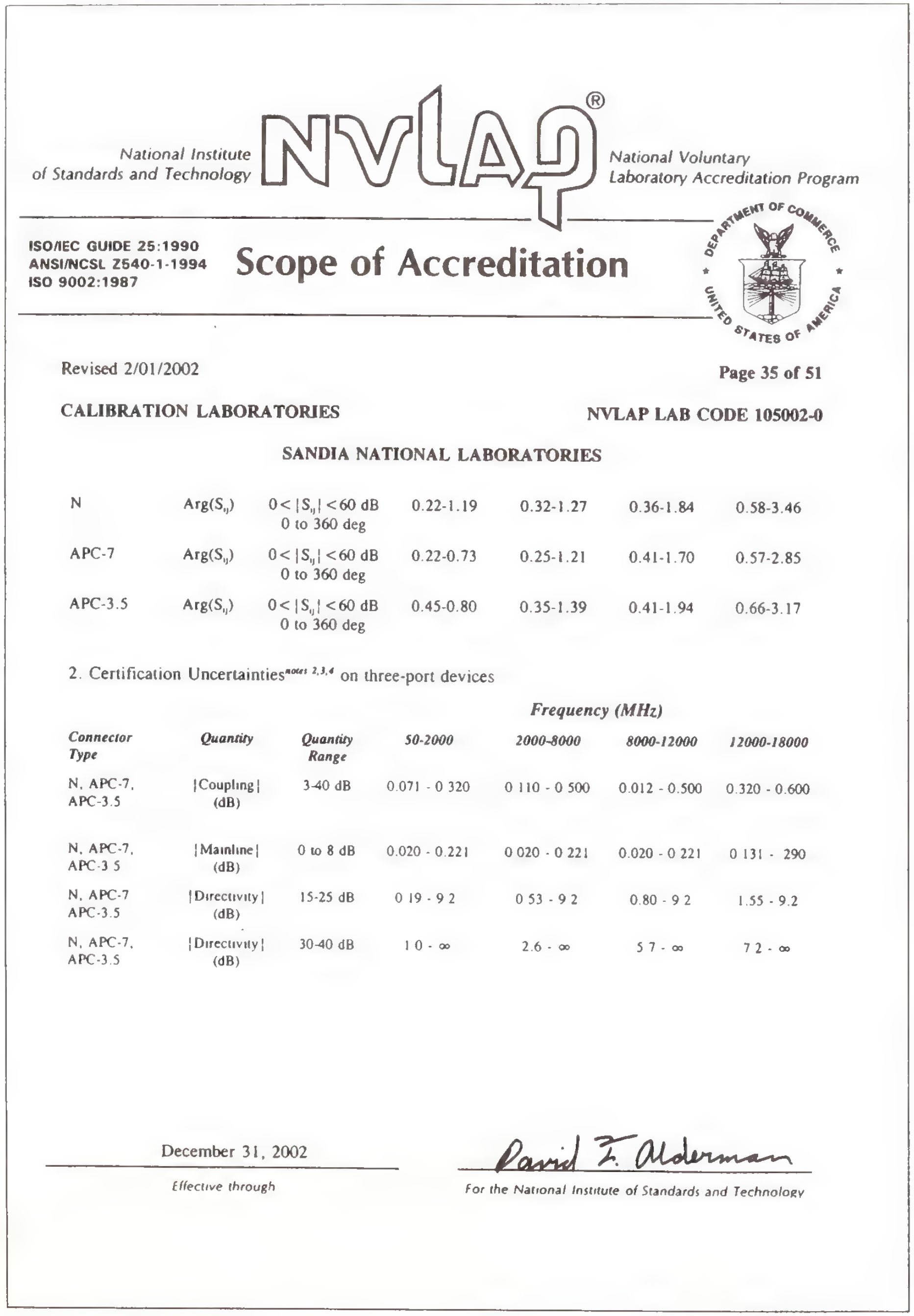

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N	Arg(S_{ij})	0 < |S_{ij}| < 60 dB 0 to 360 deg	0.22-1.19	0.32-1.27	0.36-1.84	0.58-3.46
APC-7	Arg(S_{ij})	0 < |S_{ij}| < 60 dB 0 to 360 deg	0.22-0.73	0.25-1.21	0.41-1.70	0.57-2.85
APC-3.5	Arg(S_{ij})	0 < |S_{ij}| < 60 dB 0 to 360 deg	0.45-0.80	0.35-1.39	0.41-1.94	0.66-3.17

2. Certification Uncertainties[notes 2,3,4] on three-port devices

Connector Type	*Quantity*	*Quantity Range*	*Frequency (MHz)* 50-2000	2000-8000	8000-12000	12000-18000
N, APC-7, APC-3.5	|Coupling| (dB)	3-40 dB	0.071 - 0.320	0.110 - 0.500	0.012 - 0.500	0.320 - 0.600
N, APC-7, APC-3.5	|Mainline| (dB)	0 to 8 dB	0.020 - 0.221	0.020 - 0.221	0.020 - 0.221	0.131 - 290
N, APC-7 APC-3.5	|Directivity| (dB)	15-25 dB	0.19 - 9.2	0.53 - 9.2	0.80 - 9.2	1.55 - 9.2
N, APC-7, APC-3.5	|Directivity| (dB)	30-40 dB	1.0 - ∞	2.6 - ∞	5.7 - ∞	7.2 - ∞

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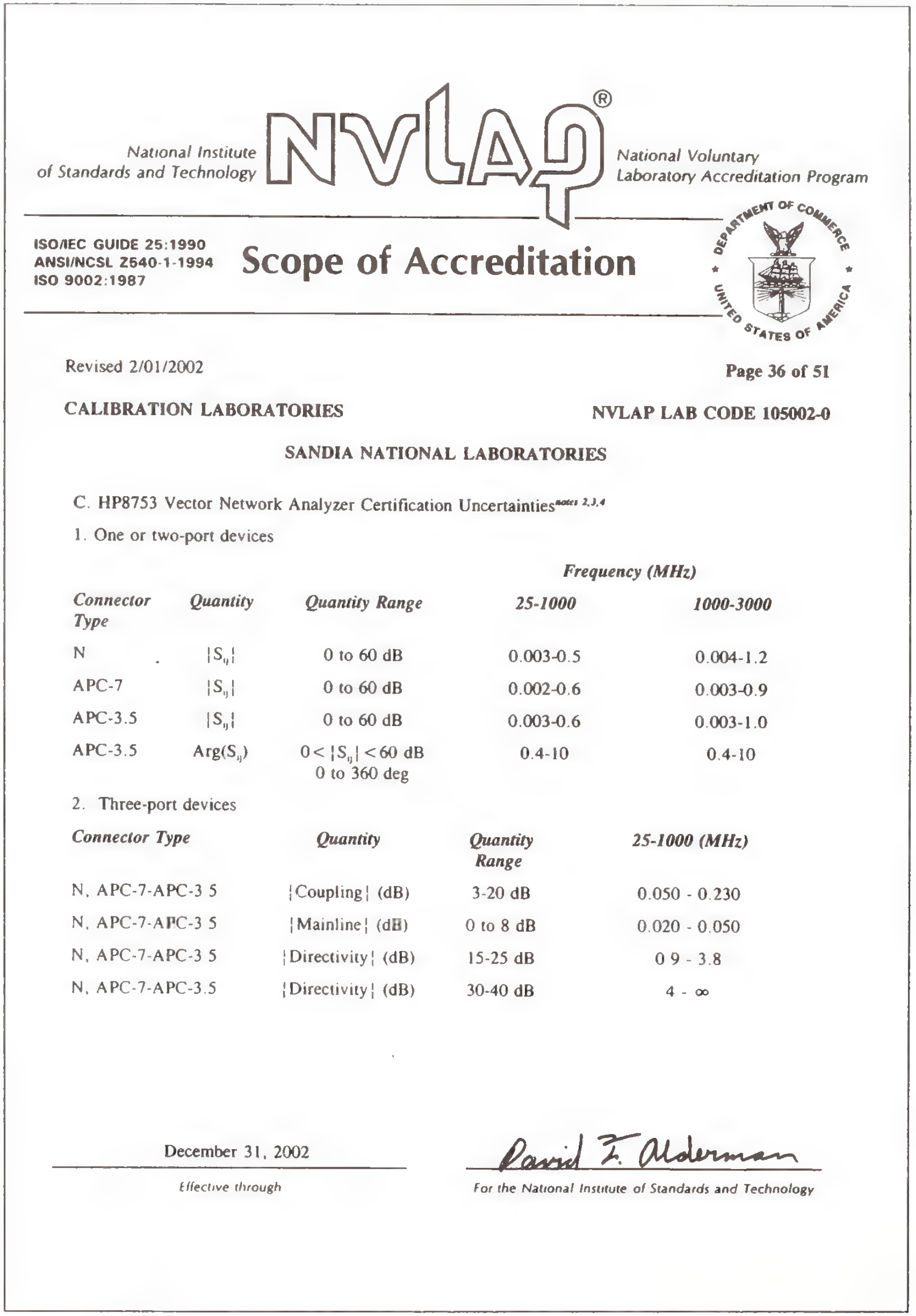

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C. HP8753 Vector Network Analyzer Certification Uncertainties[notes 2,3,4]

1. One or two-port devices

Connector Type	*Quantity*	*Quantity Range*	*Frequency (MHz)* *25-1000*	*1000-3000*
N	|S_{ij}|	0 to 60 dB	0.003-0.5	0.004-1.2
APC-7	|S_{ij}|	0 to 60 dB	0.002-0.6	0.003-0.9
APC-3.5	|S_{ij}|	0 to 60 dB	0.003-0.6	0.003-1.0
APC-3.5	Arg(S_{ij})	0 < |S_{ij}| < 60 dB 0 to 360 deg	0.4-10	0.4-10

2. Three-port devices

Connector Type	*Quantity*	*Quantity Range*	*25-1000 (MHz)*
N, APC-7-APC-3.5	|Coupling| (dB)	3-20 dB	0.050 - 0.230
N, APC-7-APC-3.5	|Mainline| (dB)	0 to 8 dB	0.020 - 0.050
N, APC-7-APC-3.5	|Directivity| (dB)	15-25 dB	0.9 - 3.8
N, APC-7-APC-3.5	|Directivity| (dB)	30-40 dB	4 - ∞

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D. Weinschel VM-4B Certification Uncertainties$^{notes\ 2,3,4}$ on Attenuation

Connector Type	*Quantity*	*Quantity Range*	*Frequency (MHz)* 10-2000	2000-8000	8000-12000	12000-18000
N	$\lvert S_{ij}\rvert$	0 to 100 dB	0.06-0.60	0.10-1.10	0.25-1.52	0.38-1.80
APC-7	$\lvert S_{ij}\rvert$	0 to 100 dB	0.06-0.60	0.10-1.00	0.20-1.43	0.30-1.75
BNC	$\lvert S_{ij}\rvert$	0 to 100 dB	0.10-0.90$^{note\ 5}$	------	------	------

E. Power Ratio Attenuation Expanded Uncertainties$^{notes\ 1,2,3}$

Connector Type	*Quantity*	*Quantity Range*	*Frequency (MHz)* 10-2000	2000-8000	8000-12000	12000-18000
Fixed Attenuators or Step/Variable Attenuators						
N, APC-7 APC-3.5	$\lvert S_{ij}\rvert$	0 to 11 dB	0.008-0.014 + Mismatch Unc.	0.014-0.016 + Mismatch Unc.	0.013-0.015 + Mismatch Unc.	0.015-0.018 + Mismatch Unc.
Isolated Step/Variable Attenuators						
N, APC-7 APC-3.5	$\lvert S_{ij}\rvert$	0 to 11 dB	0.008-0.014	0.014-0.016	0.013-0.015	0.015-0.018

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NVLAP Code: 20/R16
Group Delay Certification Uncertainties$^{notes\ 2,3,4}$

Connector Type	*Typical Atten. (dB)*	*Delay (ns)*	*50-1000 (MHz)*
APC-7, N, APC-3.5	0.08	5	0.02 - 0.05
APC-7, N, APC-3.5	0.21	15	0.04 - 0.13
APC-7, N, APC-3.5	0.8	50	0.05 - 0.12
APC-7, N, APC-3.5	3	200	0.15 - 0.41
APC-7, N, APC-3.5	2.2	385	0.46 - 0.50

NVLAP Code: 20/R17
RF/Microwave Power Meters

CW Power Certification Uncertainties$^{notes\ 2,3,4}$

A. Low to Medium Power CW Microwave Power Meter Calibration at Type N Connector

Quantity	*Quantity Range*	*Frequency (MHz)* 1 to 2000	2000 to 4000	4000 to 12400	12400 to 16500
Power (dBm)	-30 to -10	.09 to .41 dB	.13 to .41 dB	.14 to .34 dB	.16 to .46 dB
Power (dBm)	-10 to 10	.06 to .27 dB	.10 to .25 dB	.11 to .30 dB	------
Power (dBm)	10 to 30	.06 to .25 dB	.10 to .21 dB	.11 to .24 dB	------

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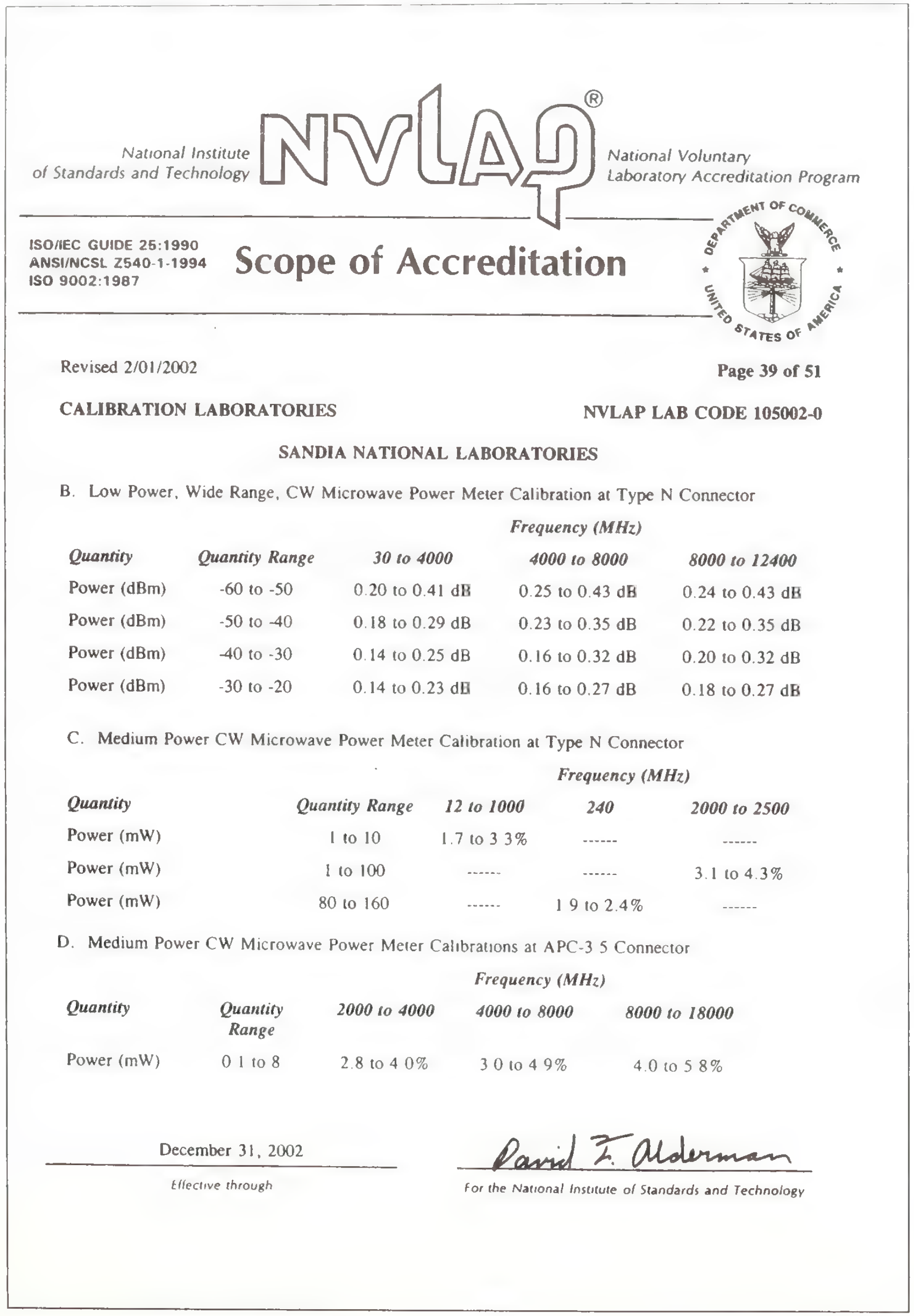

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B. Low Power, Wide Range, CW Microwave Power Meter Calibration at Type N Connector

		Frequency (MHz)		
Quantity	***Quantity Range***	***30 to 4000***	***4000 to 8000***	***8000 to 12400***
Power (dBm)	-60 to -50	0.20 to 0.41 dB	0.25 to 0.43 dB	0.24 to 0.43 dB
Power (dBm)	-50 to -40	0.18 to 0.29 dB	0.23 to 0.35 dB	0.22 to 0.35 dB
Power (dBm)	-40 to -30	0.14 to 0.25 dB	0.16 to 0.32 dB	0.20 to 0.32 dB
Power (dBm)	-30 to -20	0.14 to 0.23 dB	0.16 to 0.27 dB	0.18 to 0.27 dB

C. Medium Power CW Microwave Power Meter Calibration at Type N Connector

		Frequency (MHz)		
Quantity	***Quantity Range***	***12 to 1000***	***240***	***2000 to 2500***
Power (mW)	1 to 10	1.7 to 3.3%	------	------
Power (mW)	1 to 100	------	------	3.1 to 4.3%
Power (mW)	80 to 160	------	1.9 to 2.4%	------

D. Medium Power CW Microwave Power Meter Calibrations at APC-3.5 Connector

		Frequency (MHz)		
Quantity	***Quantity Range***	***2000 to 4000***	***4000 to 8000***	***8000 to 18000***
Power (mW)	0.1 to 8	2.8 to 4.0%	3.0 to 4.9%	4.0 to 5.8%

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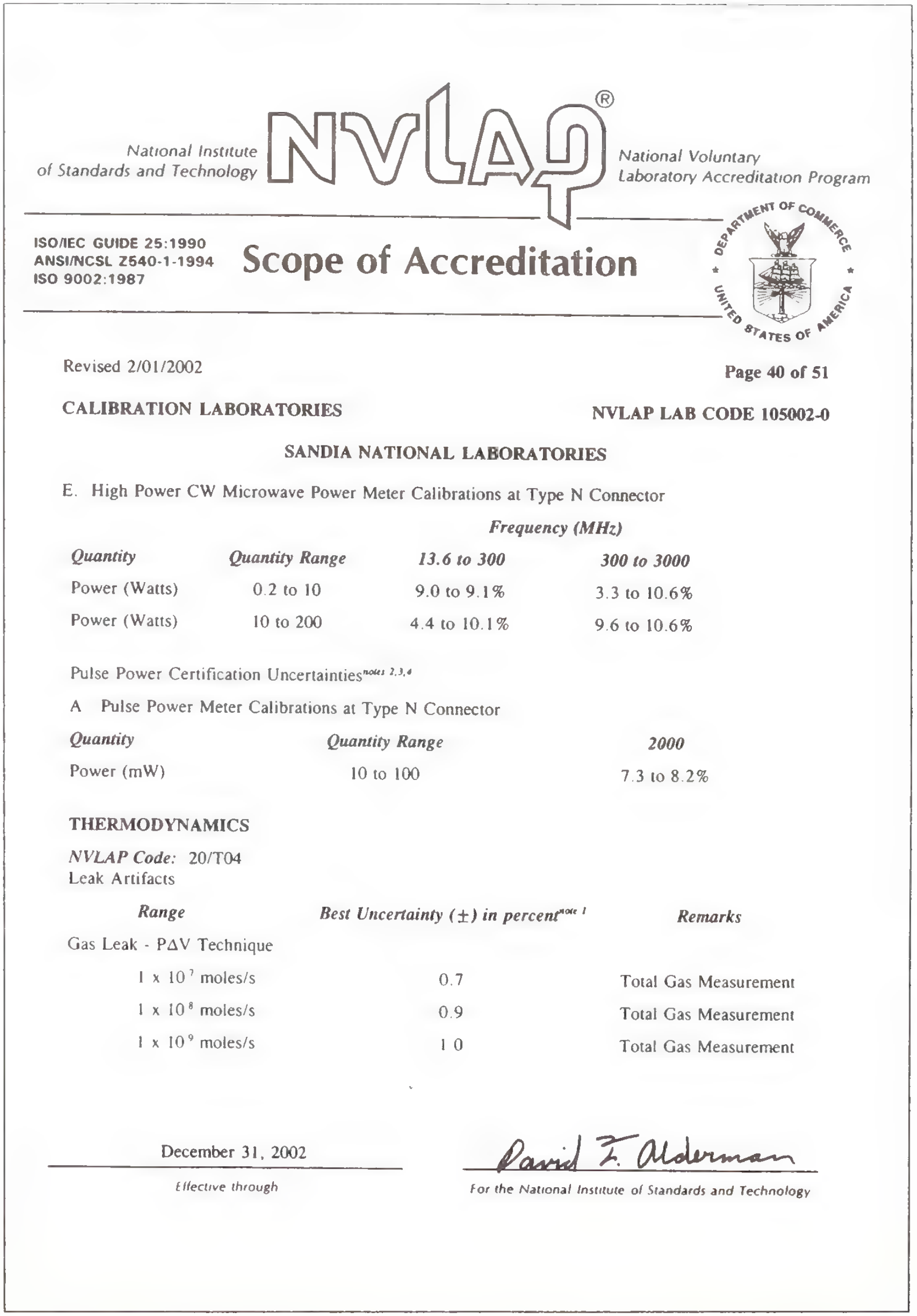

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E. High Power CW Microwave Power Meter Calibrations at Type N Connector

		Frequency (MHz)	
Quantity	***Quantity Range***	***13.6 to 300***	***300 to 3000***
Power (Watts)	0.2 to 10	9.0 to 9.1%	3.3 to 10.6%
Power (Watts)	10 to 200	4.4 to 10.1%	9.6 to 10.6%

Pulse Power Certification Uncertainties$^{notes\ 2,3,4}$

A Pulse Power Meter Calibrations at Type N Connector

Quantity	***Quantity Range***	***2000***
Power (mW)	10 to 100	7.3 to 8.2%

THERMODYNAMICS

NVLAP Code: 20/T04
Leak Artifacts

Range	***Best Uncertainty (±) in percent***$^{note\ 1}$	***Remarks***
Gas Leak - PΔV Technique		
1×10^{7} moles/s	0.7	Total Gas Measurement
1×10^{8} moles/s	0.9	Total Gas Measurement
1×10^{9} moles/s	1.0	Total Gas Measurement

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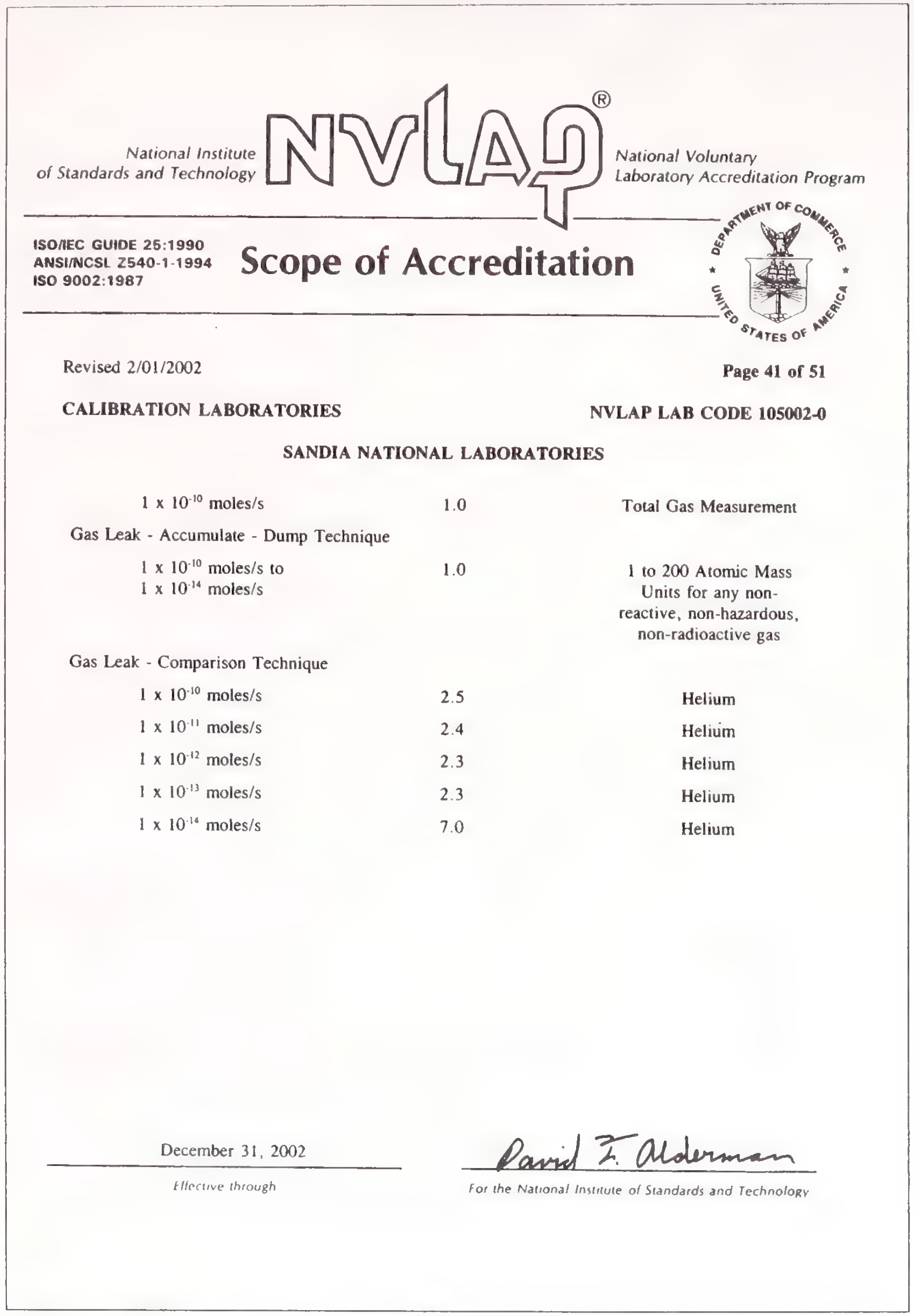

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1 x 10^{-10} moles/s	1.0	Total Gas Measurement
Gas Leak - Accumulate - Dump Technique		
1 x 10^{-10} moles/s to 1 x 10^{-14} moles/s	1.0	1 to 200 Atomic Mass Units for any non-reactive, non-hazardous, non-radioactive gas
Gas Leak - Comparison Technique		
1 x 10^{-10} moles/s	2.5	Helium
1 x 10^{-11} moles/s	2.4	Helium
1 x 10^{-12} moles/s	2.3	Helium
1 x 10^{-13} moles/s	2.3	Helium
1 x 10^{-14} moles/s	7.0	Helium

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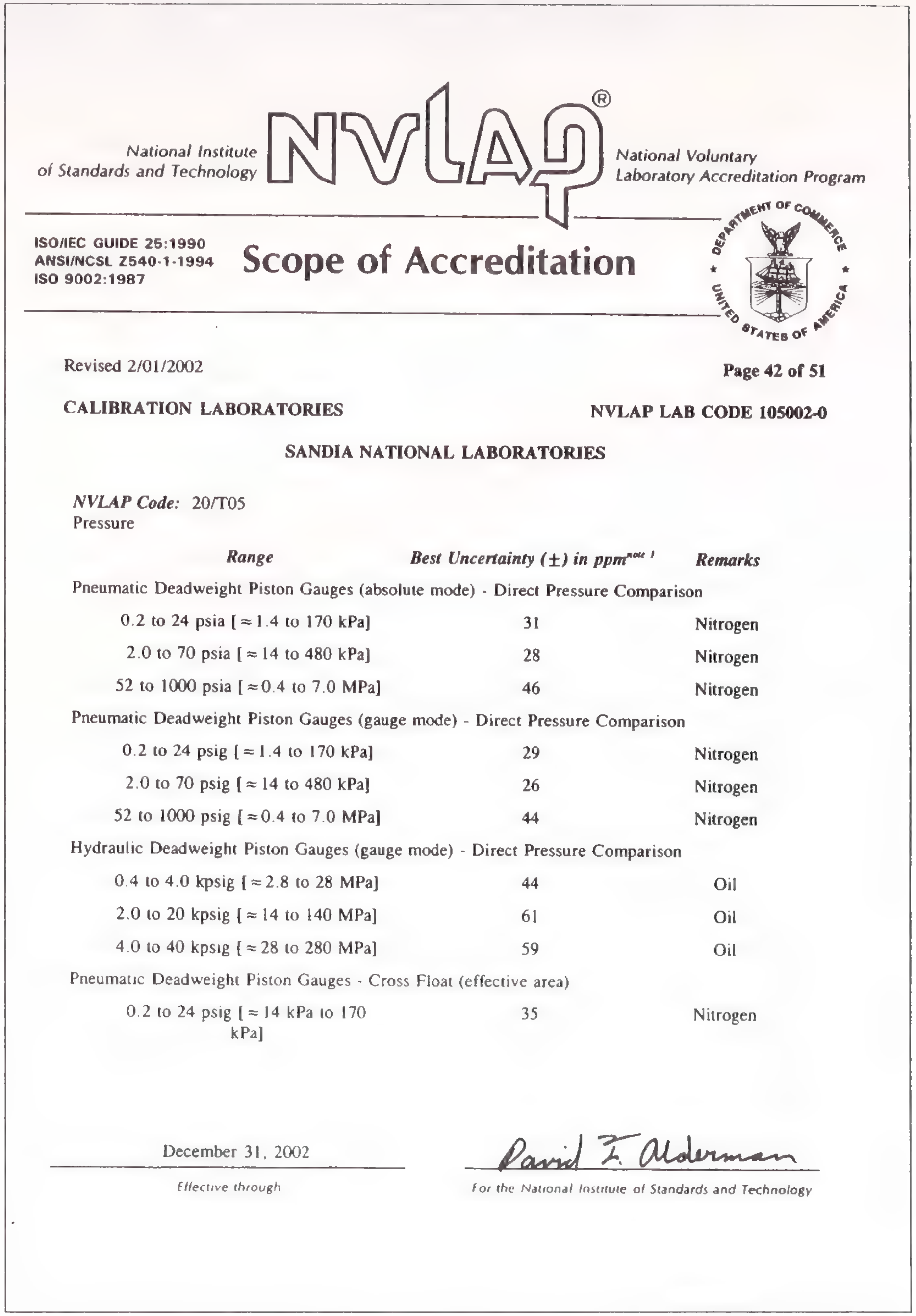

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NVLAP Code: 20/T05
Pressure

Range	***Best Uncertainty (±) in ppm***$^{note\ 1}$	***Remarks***
Pneumatic Deadweight Piston Gauges (absolute mode) - Direct Pressure Comparison		
0.2 to 24 psia [≈1.4 to 170 kPa]	31	Nitrogen
2.0 to 70 psia [≈14 to 480 kPa]	28	Nitrogen
52 to 1000 psia [≈0.4 to 7.0 MPa]	46	Nitrogen
Pneumatic Deadweight Piston Gauges (gauge mode) - Direct Pressure Comparison		
0.2 to 24 psig [≈1.4 to 170 kPa]	29	Nitrogen
2.0 to 70 psig [≈14 to 480 kPa]	26	Nitrogen
52 to 1000 psig [≈0.4 to 7.0 MPa]	44	Nitrogen
Hydraulic Deadweight Piston Gauges (gauge mode) - Direct Pressure Comparison		
0.4 to 4.0 kpsig [≈2.8 to 28 MPa]	44	Oil
2.0 to 20 kpsig [≈14 to 140 MPa]	61	Oil
4.0 to 40 kpsig [≈28 to 280 MPa]	59	Oil
Pneumatic Deadweight Piston Gauges - Cross Float (effective area)		
0.2 to 24 psig [≈14 kPa to 170 kPa]	35	Nitrogen

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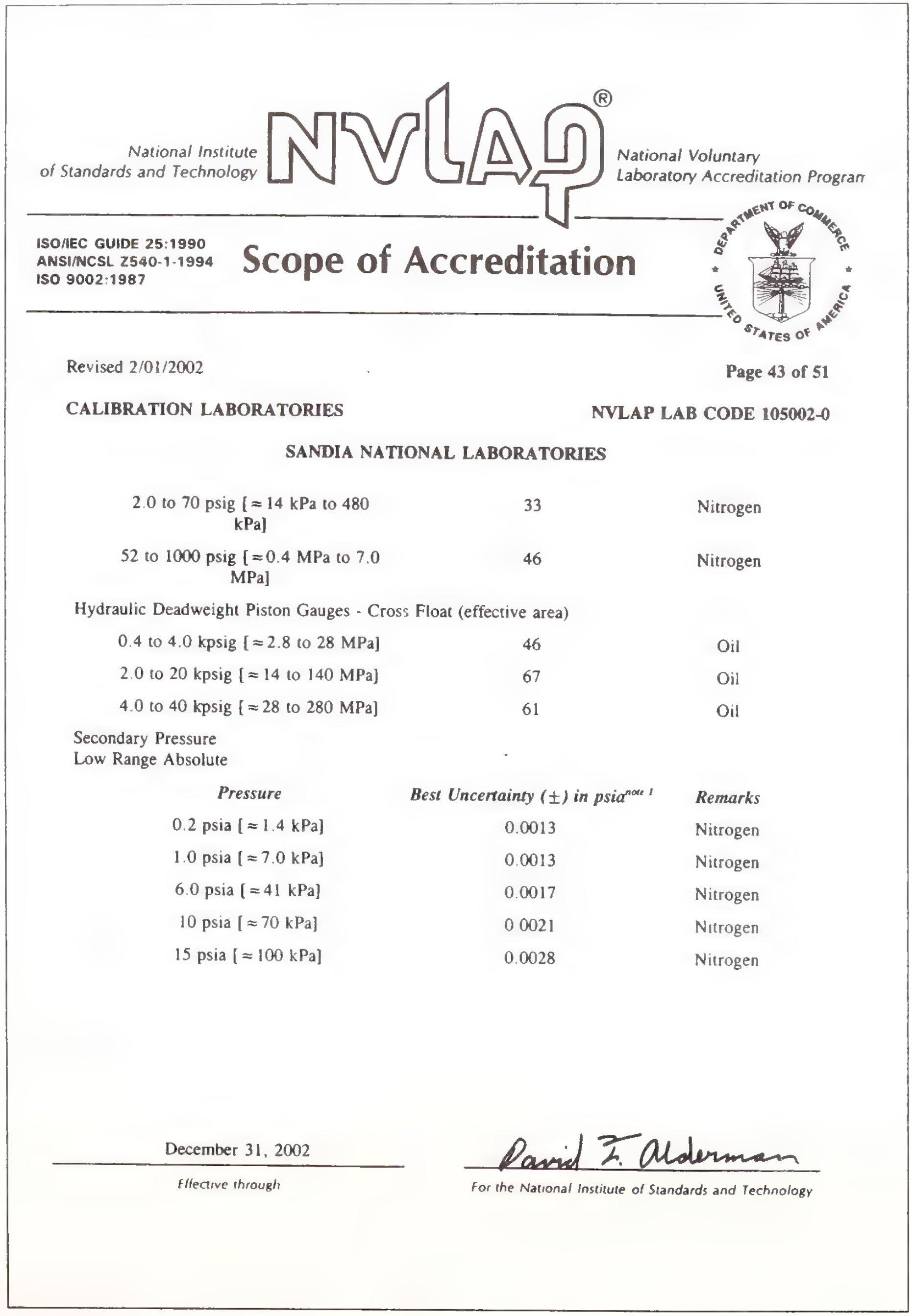

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2.0 to 70 psig [≈14 kPa to 480 kPa]	33	Nitrogen
52 to 1000 psig [≈0.4 MPa to 7.0 MPa]	46	Nitrogen

Hydraulic Deadweight Piston Gauges - Cross Float (effective area)

0.4 to 4.0 kpsig [≈2.8 to 28 MPa]	46	Oil
2.0 to 20 kpsig [≈14 to 140 MPa]	67	Oil
4.0 to 40 kpsig [≈28 to 280 MPa]	61	Oil

Secondary Pressure
Low Range Absolute

Pressure	*Best Uncertainty (±) in psia*$^{note\ 1}$	*Remarks*
0.2 psia [≈1.4 kPa]	0.0013	Nitrogen
1.0 psia [≈7.0 kPa]	0.0013	Nitrogen
6.0 psia [≈41 kPa]	0.0017	Nitrogen
10 psia [≈70 kPa]	0 0021	Nitrogen
15 psia [≈100 kPa]	0.0028	Nitrogen

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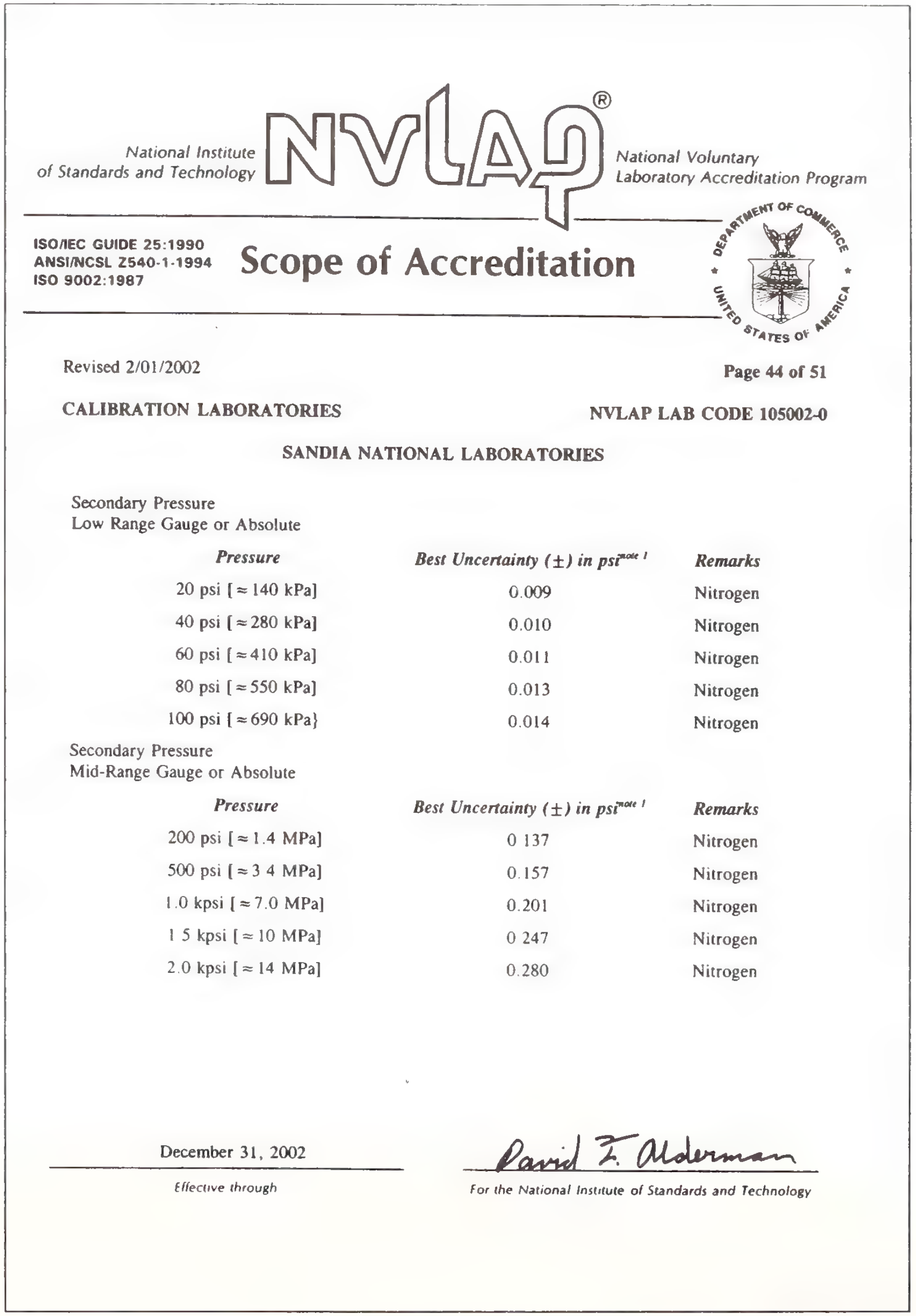

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Secondary Pressure
Low Range Gauge or Absolute

Pressure	*Best Uncertainty (±) in psi*$^{note\ 1}$	*Remarks*
20 psi [≈140 kPa]	0.009	Nitrogen
40 psi [≈280 kPa]	0.010	Nitrogen
60 psi [≈410 kPa]	0.011	Nitrogen
80 psi [≈550 kPa]	0.013	Nitrogen
100 psi [≈690 kPa}	0.014	Nitrogen

Secondary Pressure
Mid-Range Gauge or Absolute

Pressure	*Best Uncertainty (±) in psi*$^{note\ 1}$	*Remarks*
200 psi [≈1.4 MPa]	0 137	Nitrogen
500 psi [≈3 4 MPa]	0.157	Nitrogen
1.0 kpsi [≈7.0 MPa]	0.201	Nitrogen
1 5 kpsi [≈10 MPa]	0 247	Nitrogen
2.0 kpsi [≈14 MPa]	0.280	Nitrogen

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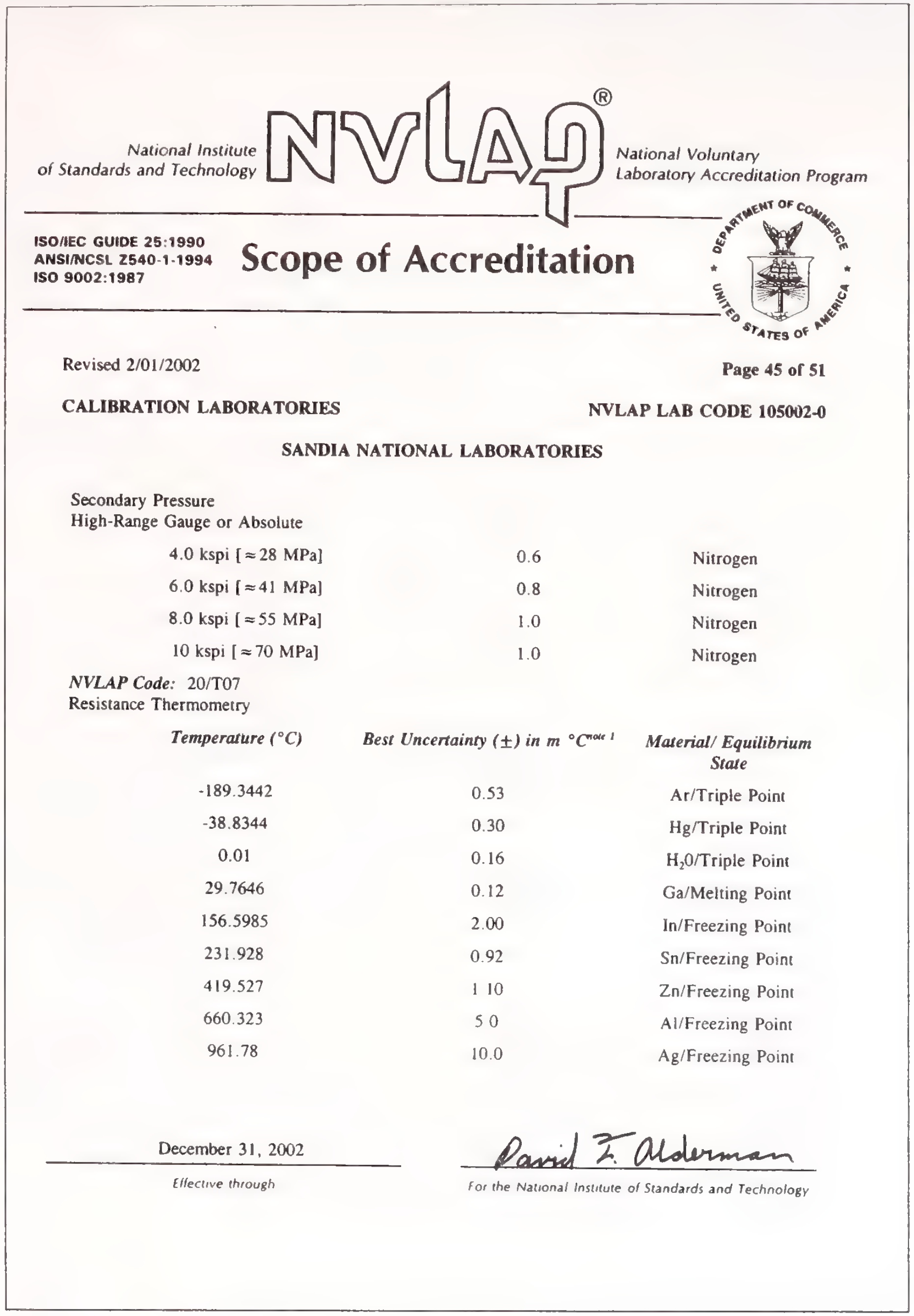

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Secondary Pressure
High-Range Gauge or Absolute

4.0 kspi [≈ 28 MPa]	0.6	Nitrogen
6.0 kspi [≈ 41 MPa]	0.8	Nitrogen
8.0 kspi [≈ 55 MPa]	1.0	Nitrogen
10 kspi [≈ 70 MPa]	1.0	Nitrogen

NVLAP Code: 20/T07
Resistance Thermometry

Temperature (°C)	*Best Uncertainty (±) in m °C*$^{note\ 1}$	*Material/ Equilibrium State*
-189.3442	0.53	Ar/Triple Point
-38.8344	0.30	Hg/Triple Point
0.01	0.16	H_2O/Triple Point
29.7646	0.12	Ga/Melting Point
156.5985	2.00	In/Freezing Point
231.928	0.92	Sn/Freezing Point
419.527	1 10	Zn/Freezing Point
660.323	5 0	Al/Freezing Point
961.78	10.0	Ag/Freezing Point

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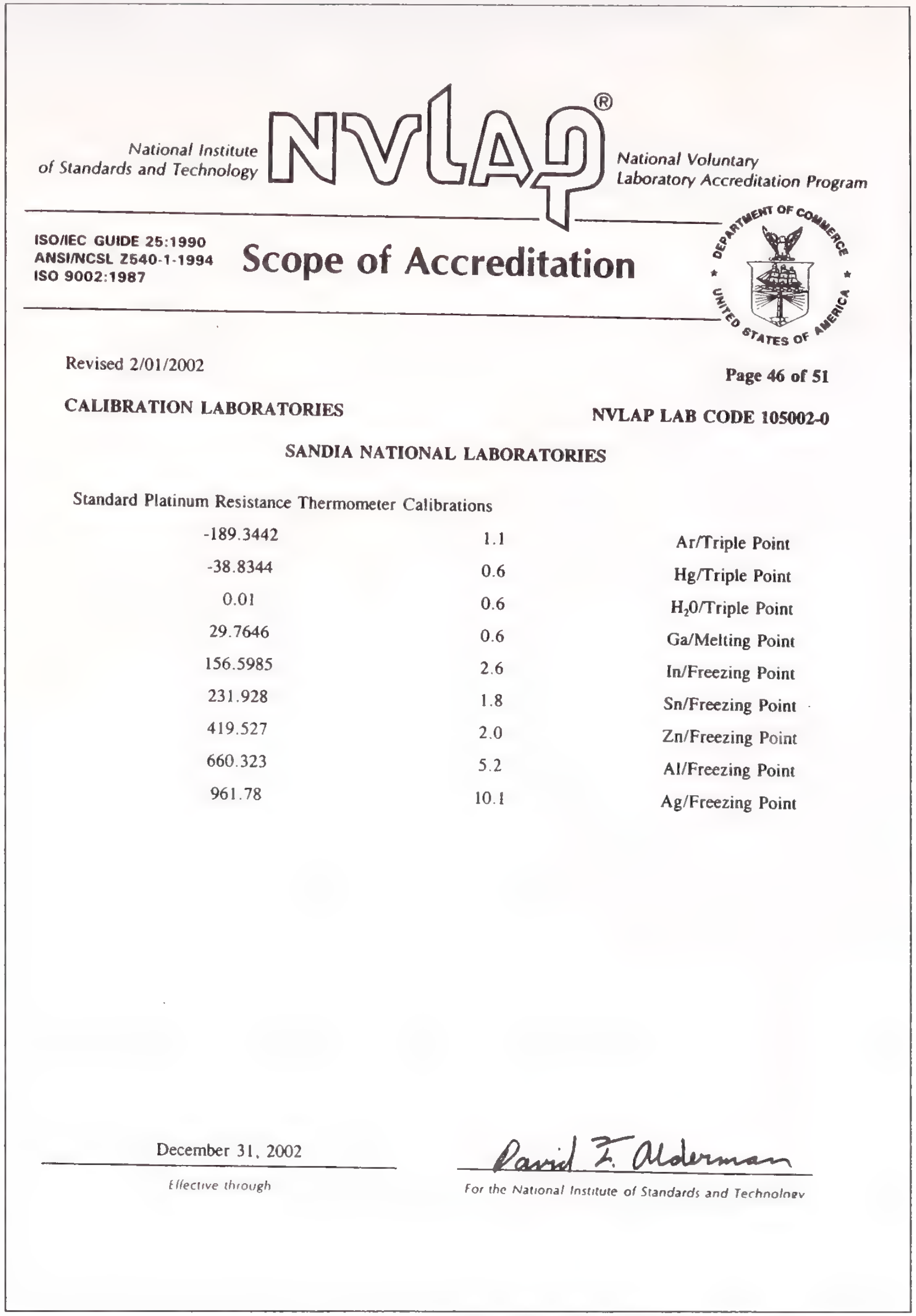

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Standard Platinum Resistance Thermometer Calibrations

-189.3442	1.1	Ar/Triple Point
-38.8344	0.6	Hg/Triple Point
0.01	0.6	H_2O/Triple Point
29.7646	0.6	Ga/Melting Point
156.5985	2.6	In/Freezing Point
231.928	1.8	Sn/Freezing Point
419.527	2.0	Zn/Freezing Point
660.323	5.2	Al/Freezing Point
961.78	10.1	Ag/Freezing Point

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Comparison Calibrations

Temperature Range (°C)	*Best Uncertainty (±) in °C*note 1	*Type of Device*
-80 to 0	0.10	Thermocouples
10 to 150	0.10	Thermocouples
150 to 660	0.22	Thermocouples
660 to 700	0.47	Thermocouples
700 to 1100	2.5	Thermocouples
1100 to 1300	2.8	Thermocouples
-80 to 0	0.06	RTD/IPRT/PRT
10 to 150	0.09	RTD/IPRT/PRT
150 to 660	0.21	RTD/IPRT/PRT
-80 to 0	0.05	Liquid in Glass
10 to 150	0.06	Liquid in Glass
-80 to 0	0.06	Thermistors
10 to 150	0.09	Thermistors
150 to 250	0.21	Thermistors

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Thermocouple Simulator/Readout Calibration Methods

Type	*ITS-90 Temperature Range (°C)*	*Best Uncertainty (±) in °C*notes 1,9	*NIST Monograph 175 Reference Table*note 10
K	-200 TO 1370	0.10 to 0.30	7.3.3
J	-200 to 1200	0.08 to 0.22	6.3.3
E	-240 to 1000	0.07 to 0.38	5.3.3
T	-240 to 400	0.09 to 0.53	9.3.3
R	-50 to 1750	0.38 to 1.09	3.3.3
S	-50 to 1750	0.43 to 1.02	4.3.3
B	100 to 1750	0.43 to 4.45	2.3.3
C	0 to 2300	0.24 to 0.82	

NVLAP Code: 20/T10
Vacuum

Range	*Best Uncertainty (±) in percent*note 1	*Remarks*
Ionization Gage Reference for direct comparison		
1.3×10^{-6} Pa < reading ≤ 1.3×10^{5} Pa	4.8	N_2; 10^{-8} Torr
1.3×10^{5} Pa < reading ≤ 1.3×10^{4} Pa	4.7	N_2; 10^{7} Torr

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1.3 x 10^{-4} Pa < reading ≤ 1.3 x 10^{-3} Pa	4.7 - 2.5	N_2; 10^{-6} Torr

Spinning Rotor Gage Reference for direct comparison

1.3 x 10^{-4} Pa < reading ≤ 1.3 x 10^{-3} Pa	4.3 - 2-1	N_2; 10^{-6} Torr
1.3 x 10^{-3} Pa < reading ≤ 1.3 Pa	2.1	N_2; 10^{-5} Torr - 10^{-3} Torr
1.3 Pa ≤ reading ≤ 13 Pa	2.2	N_2; 10^{-3} Torr

Capacitance Diaphragm Gages Reference for direct comparison

1.3 x 10^{-1} Pa ≤ reading ≤ 13.3 Pa	2.1 - 0.7	N_2; 0.1 Torr range
13.3 Pa ≤ reading ≤ 133.3 Pa	0.7	N_2; 1 Torr range
133.3 Pa ≤ reading ≤ 1.3 kPa	0.4	N_2; 10 Torr range
1.3 kPa ≤ reading ≤ 13.3 kPa	0.2	N_2; 100 Torr range
13.3 kPa ≤ reading ≤ 133.3 kPa	0.6 to 0.1	N_2; 1000 Torr range

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Secondary Capacitance Diaphragm Gages Reference for direct comparison

1.3 x 10^{-1} Pa ≤ reading ≤ 13.3 Pa	2.2 to 0.9	N_2; 0.1 Torr range
13.3 Pa ≤ reading ≤ 133.3 Pa	1.1	N_2; 1 Torr range
133.3 Pa ≤ reading ≤ 1.3 kPa	0.5	N_2; 10 Torr range
1.3 kPa ≤ reading ≤ 13.3 kPa	0.5	N_2; 100 Torr range
13.3 kPa ≤ reading ≤ 133.3 kPa	0.59 to 0.11	N_2; 1000 Torr range

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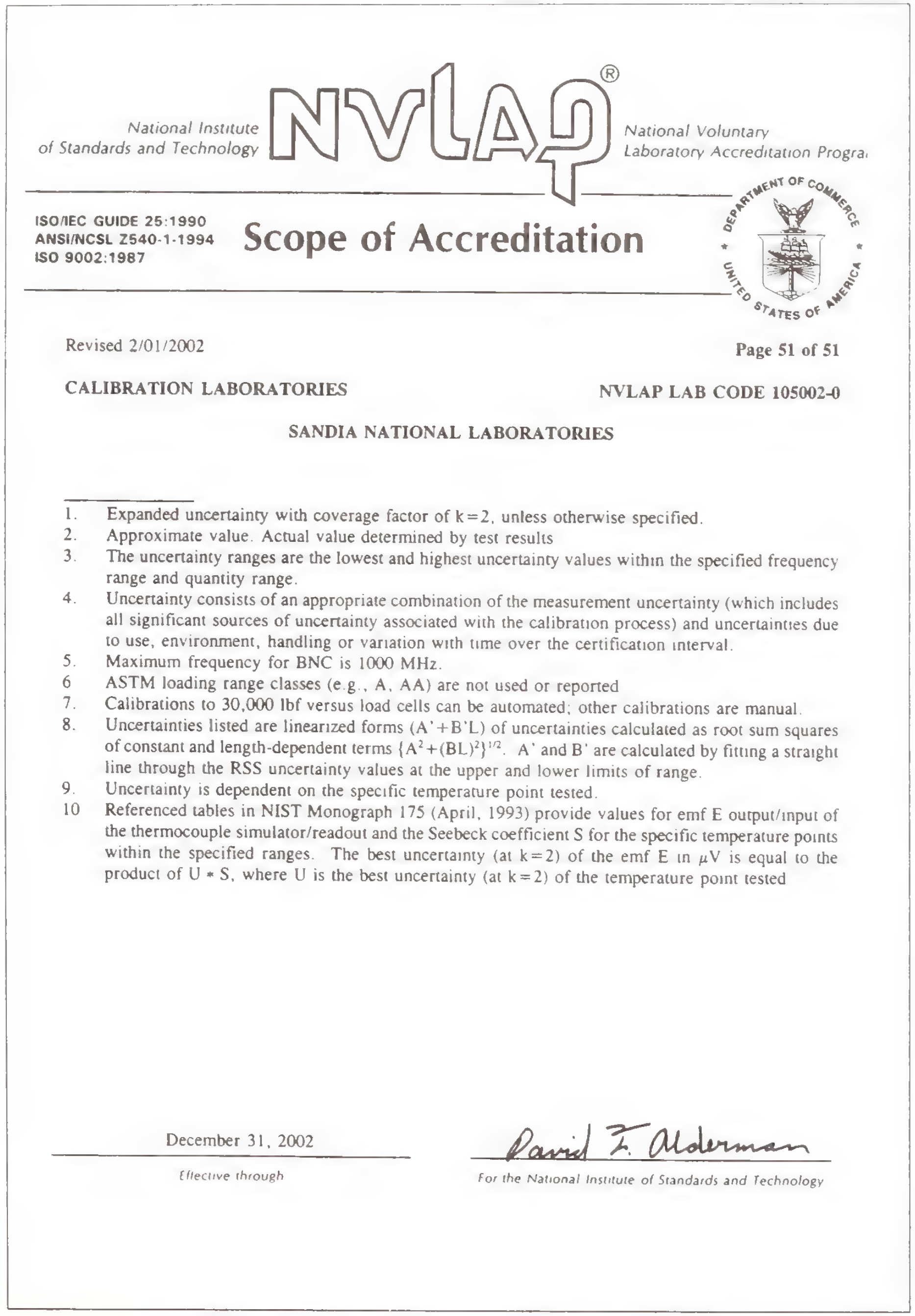

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1. Expanded uncertainty with coverage factor of k=2, unless otherwise specified.
2. Approximate value. Actual value determined by test results
3. The uncertainty ranges are the lowest and highest uncertainty values within the specified frequency range and quantity range.
4. Uncertainty consists of an appropriate combination of the measurement uncertainty (which includes all significant sources of uncertainty associated with the calibration process) and uncertainties due to use, environment, handling or variation with time over the certification interval.
5. Maximum frequency for BNC is 1000 MHz.
6. ASTM loading range classes (e.g., A, AA) are not used or reported
7. Calibrations to 30,000 lbf versus load cells can be automated; other calibrations are manual.
8. Uncertainties listed are linearized forms $(A'+B'L)$ of uncertainties calculated as root sum squares of constant and length-dependent terms $\{A^2+(BL)^2\}^{1/2}$. A' and B' are calculated by fitting a straight line through the RSS uncertainty values at the upper and lower limits of range.
9. Uncertainty is dependent on the specific temperature point tested.
10. Referenced tables in NIST Monograph 175 (April, 1993) provide values for emf E output/input of the thermocouple simulator/readout and the Seebeck coefficient S for the specific temperature points within the specified ranges. The best uncertainty (at k=2) of the emf E in μV is equal to the product of U * S, where U is the best uncertainty (at k=2) of the temperature point tested

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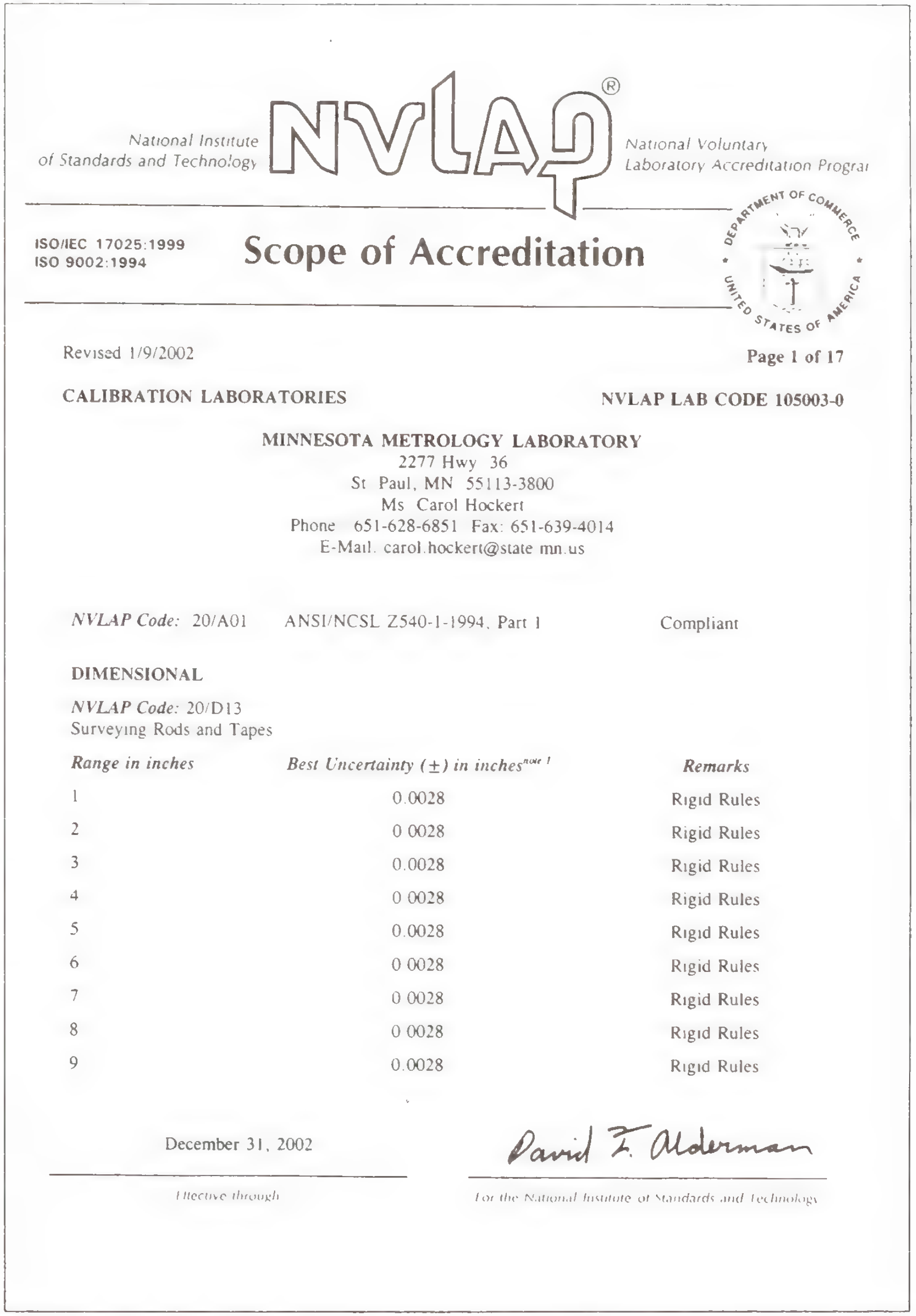

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CALIBRATION LABORATORIES **NVLAP LAB CODE 105003-0**

MINNESOTA METROLOGY LABORATORY
2277 Hwy 36
St Paul, MN 55113-3800
Ms Carol Hockert
Phone 651-628-6851 Fax: 651-639-4014
E-Mail. carol.hockert@state mn.us

NVLAP Code: 20/A01 ANSI/NCSL Z540-1-1994, Part 1 Compliant

DIMENSIONAL

NVLAP Code: 20/D13
Surveying Rods and Tapes

Range in inches	*Best Uncertainty (±) in inches*$^{\text{note 1}}$	*Remarks*
1	0.0028	Rigid Rules
2	0.0028	Rigid Rules
3	0.0028	Rigid Rules
4	0.0028	Rigid Rules
5	0.0028	Rigid Rules
6	0.0028	Rigid Rules
7	0.0028	Rigid Rules
8	0.0028	Rigid Rules
9	0.0028	Rigid Rules

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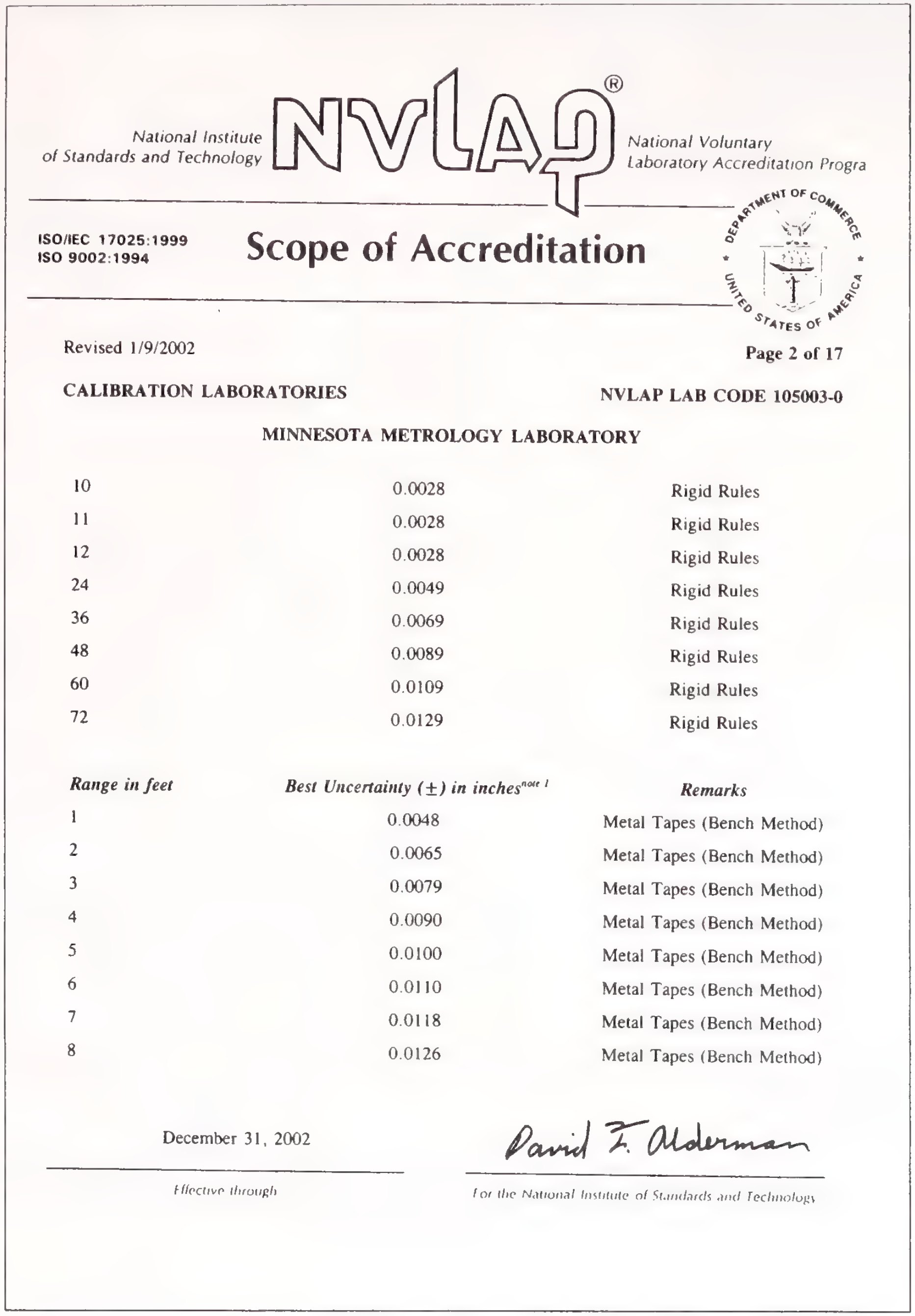

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MINNESOTA METROLOGY LABORATORY

10	0.0028	Rigid Rules
11	0.0028	Rigid Rules
12	0.0028	Rigid Rules
24	0.0049	Rigid Rules
36	0.0069	Rigid Rules
48	0.0089	Rigid Rules
60	0.0109	Rigid Rules
72	0.0129	Rigid Rules

Range in feet	*Best Uncertainty (±) in inches*[note 1]	*Remarks*
1	0.0048	Metal Tapes (Bench Method)
2	0.0065	Metal Tapes (Bench Method)
3	0.0079	Metal Tapes (Bench Method)
4	0.0090	Metal Tapes (Bench Method)
5	0.0100	Metal Tapes (Bench Method)
6	0.0110	Metal Tapes (Bench Method)
7	0.0118	Metal Tapes (Bench Method)
8	0.0126	Metal Tapes (Bench Method)

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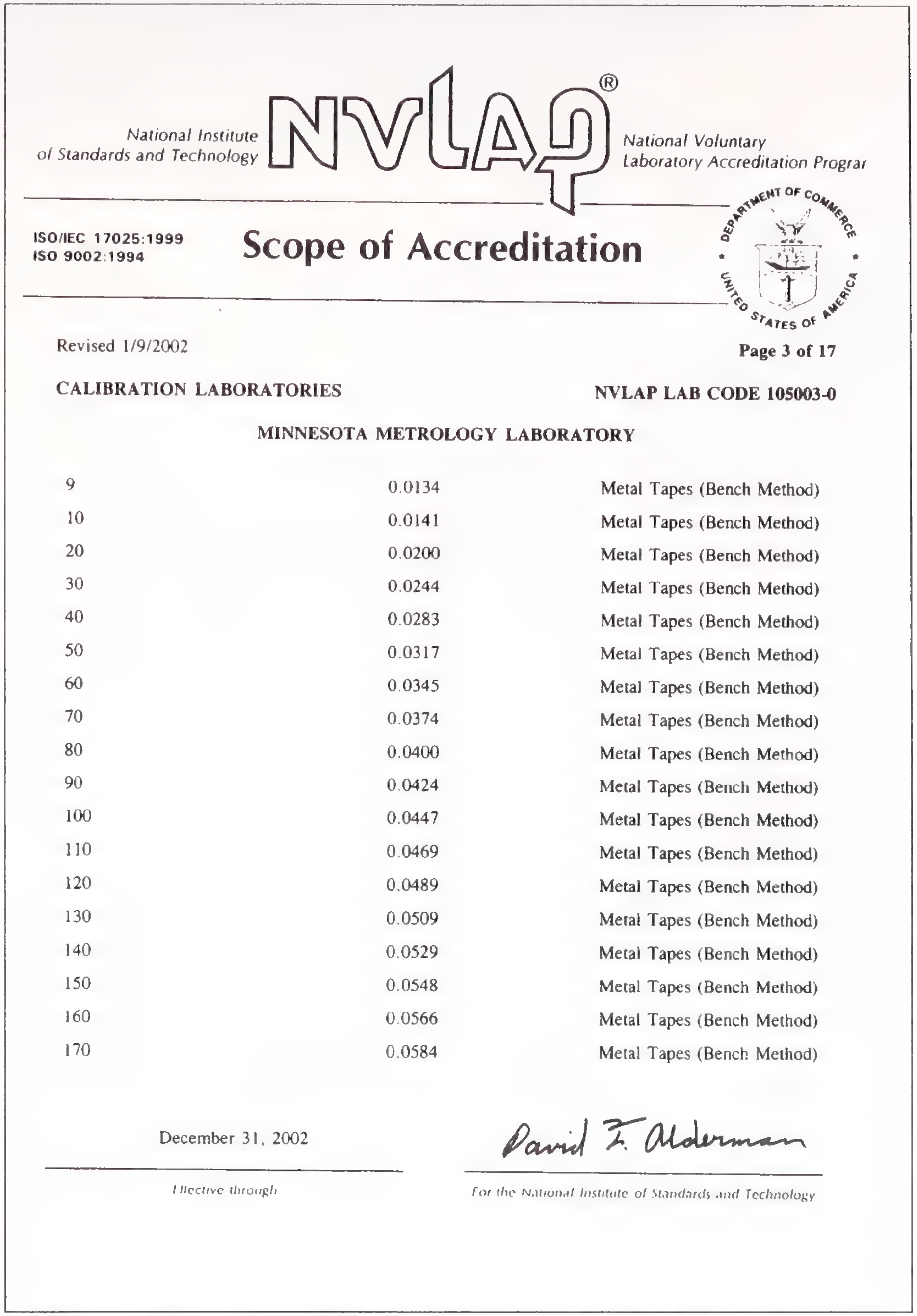

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MINNESOTA METROLOGY LABORATORY

9	0.0134	Metal Tapes (Bench Method)
10	0.0141	Metal Tapes (Bench Method)
20	0.0200	Metal Tapes (Bench Method)
30	0.0244	Metal Tapes (Bench Method)
40	0.0283	Metal Tapes (Bench Method)
50	0.0317	Metal Tapes (Bench Method)
60	0.0345	Metal Tapes (Bench Method)
70	0.0374	Metal Tapes (Bench Method)
80	0.0400	Metal Tapes (Bench Method)
90	0.0424	Metal Tapes (Bench Method)
100	0.0447	Metal Tapes (Bench Method)
110	0.0469	Metal Tapes (Bench Method)
120	0.0489	Metal Tapes (Bench Method)
130	0.0509	Metal Tapes (Bench Method)
140	0.0529	Metal Tapes (Bench Method)
150	0.0548	Metal Tapes (Bench Method)
160	0.0566	Metal Tapes (Bench Method)
170	0.0584	Metal Tapes (Bench Method)

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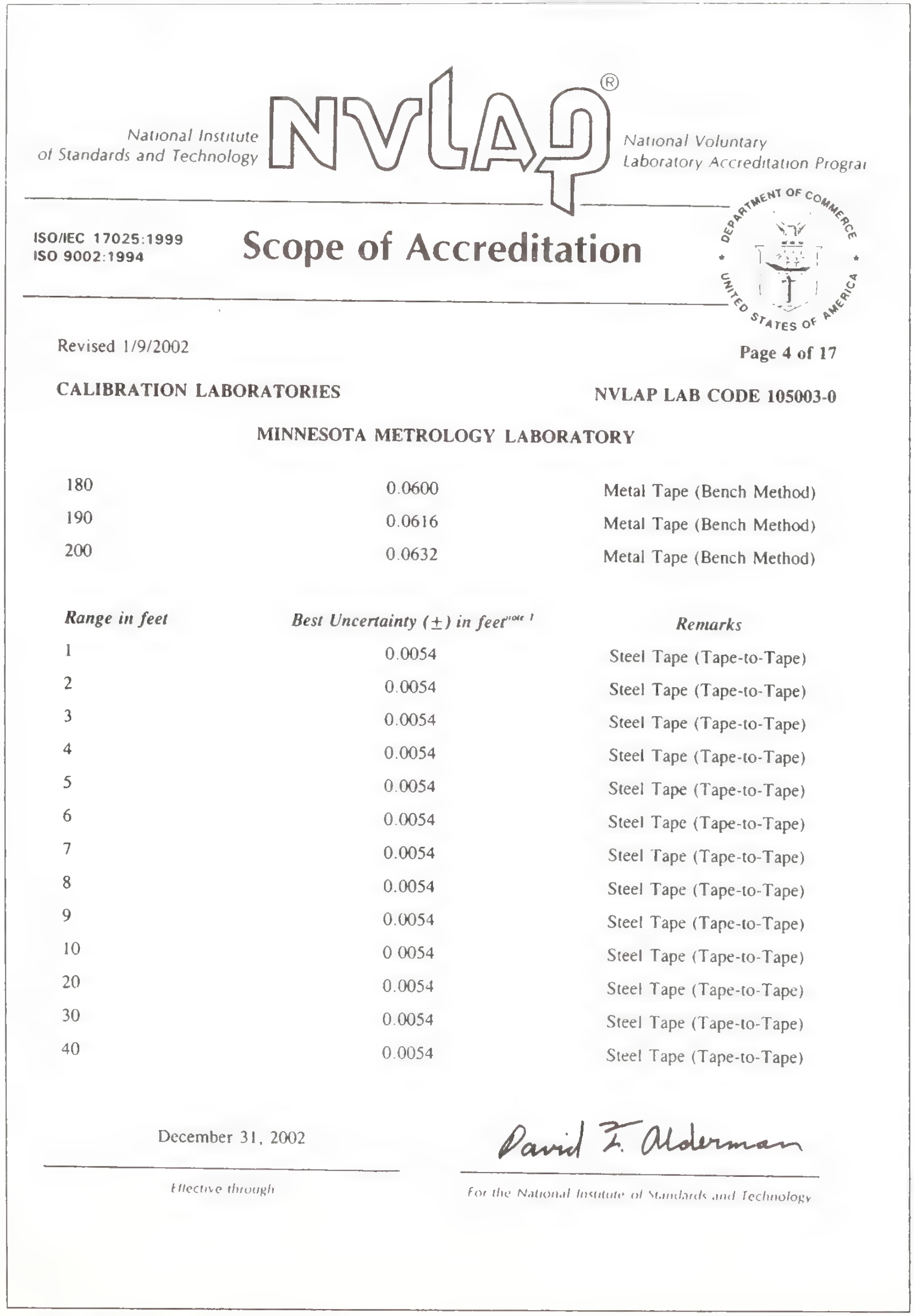

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MINNESOTA METROLOGY LABORATORY

180	0.0600	Metal Tape (Bench Method)
190	0.0616	Metal Tape (Bench Method)
200	0.0632	Metal Tape (Bench Method)

Range in feet	*Best Uncertainty (±) in feet*$^{\text{note 1}}$	*Remarks*
1	0.0054	Steel Tape (Tape-to-Tape)
2	0.0054	Steel Tape (Tape-to-Tape)
3	0.0054	Steel Tape (Tape-to-Tape)
4	0.0054	Steel Tape (Tape-to-Tape)
5	0.0054	Steel Tape (Tape-to-Tape)
6	0.0054	Steel Tape (Tape-to-Tape)
7	0.0054	Steel Tape (Tape-to-Tape)
8	0.0054	Steel Tape (Tape-to-Tape)
9	0.0054	Steel Tape (Tape-to-Tape)
10	0.0054	Steel Tape (Tape-to-Tape)
20	0.0054	Steel Tape (Tape-to-Tape)
30	0.0054	Steel Tape (Tape-to-Tape)
40	0.0054	Steel Tape (Tape-to-Tape)

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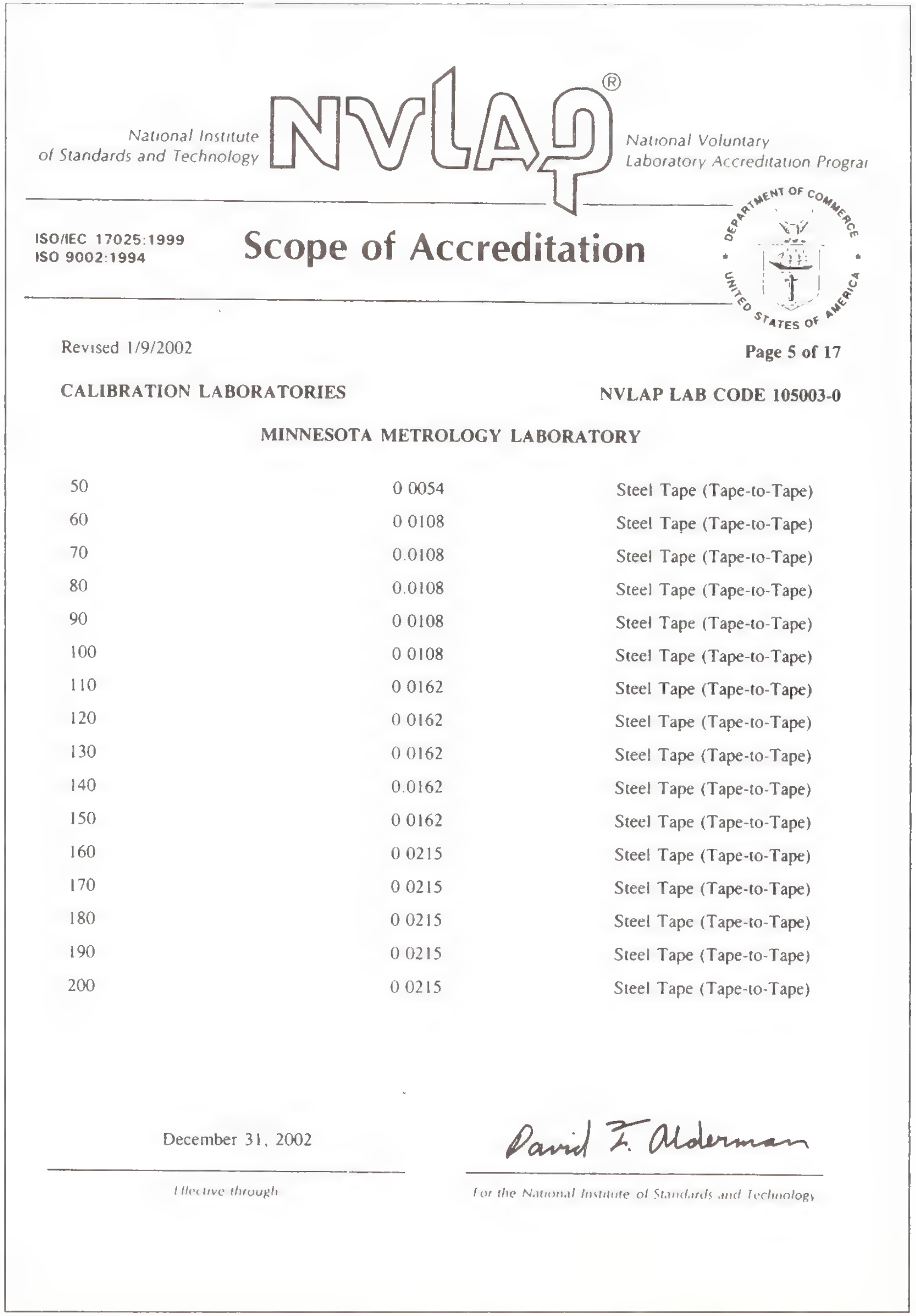

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MINNESOTA METROLOGY LABORATORY

50	0.0054	Steel Tape (Tape-to-Tape)
60	0.0108	Steel Tape (Tape-to-Tape)
70	0.0108	Steel Tape (Tape-to-Tape)
80	0.0108	Steel Tape (Tape-to-Tape)
90	0.0108	Steel Tape (Tape-to-Tape)
100	0.0108	Steel Tape (Tape-to-Tape)
110	0.0162	Steel Tape (Tape-to-Tape)
120	0.0162	Steel Tape (Tape-to-Tape)
130	0.0162	Steel Tape (Tape-to-Tape)
140	0.0162	Steel Tape (Tape-to-Tape)
150	0.0162	Steel Tape (Tape-to-Tape)
160	0.0215	Steel Tape (Tape-to-Tape)
170	0.0215	Steel Tape (Tape-to-Tape)
180	0.0215	Steel Tape (Tape-to-Tape)
190	0.0215	Steel Tape (Tape-to-Tape)
200	0.0215	Steel Tape (Tape-to-Tape)

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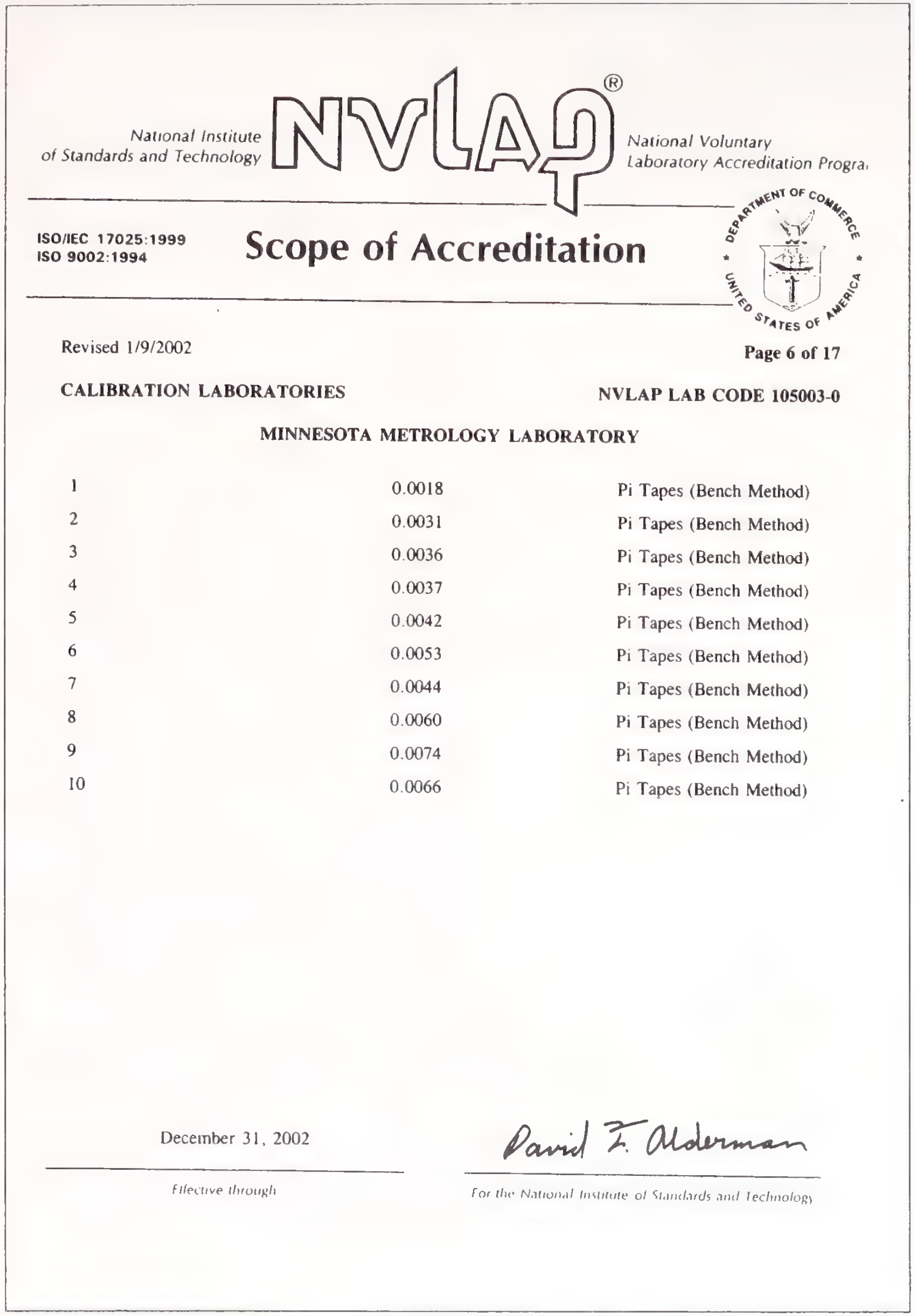

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MINNESOTA METROLOGY LABORATORY

1	0.0018	Pi Tapes (Bench Method)
2	0.0031	Pi Tapes (Bench Method)
3	0.0036	Pi Tapes (Bench Method)
4	0.0037	Pi Tapes (Bench Method)
5	0.0042	Pi Tapes (Bench Method)
6	0.0053	Pi Tapes (Bench Method)
7	0.0044	Pi Tapes (Bench Method)
8	0.0060	Pi Tapes (Bench Method)
9	0.0074	Pi Tapes (Bench Method)
10	0.0066	Pi Tapes (Bench Method)

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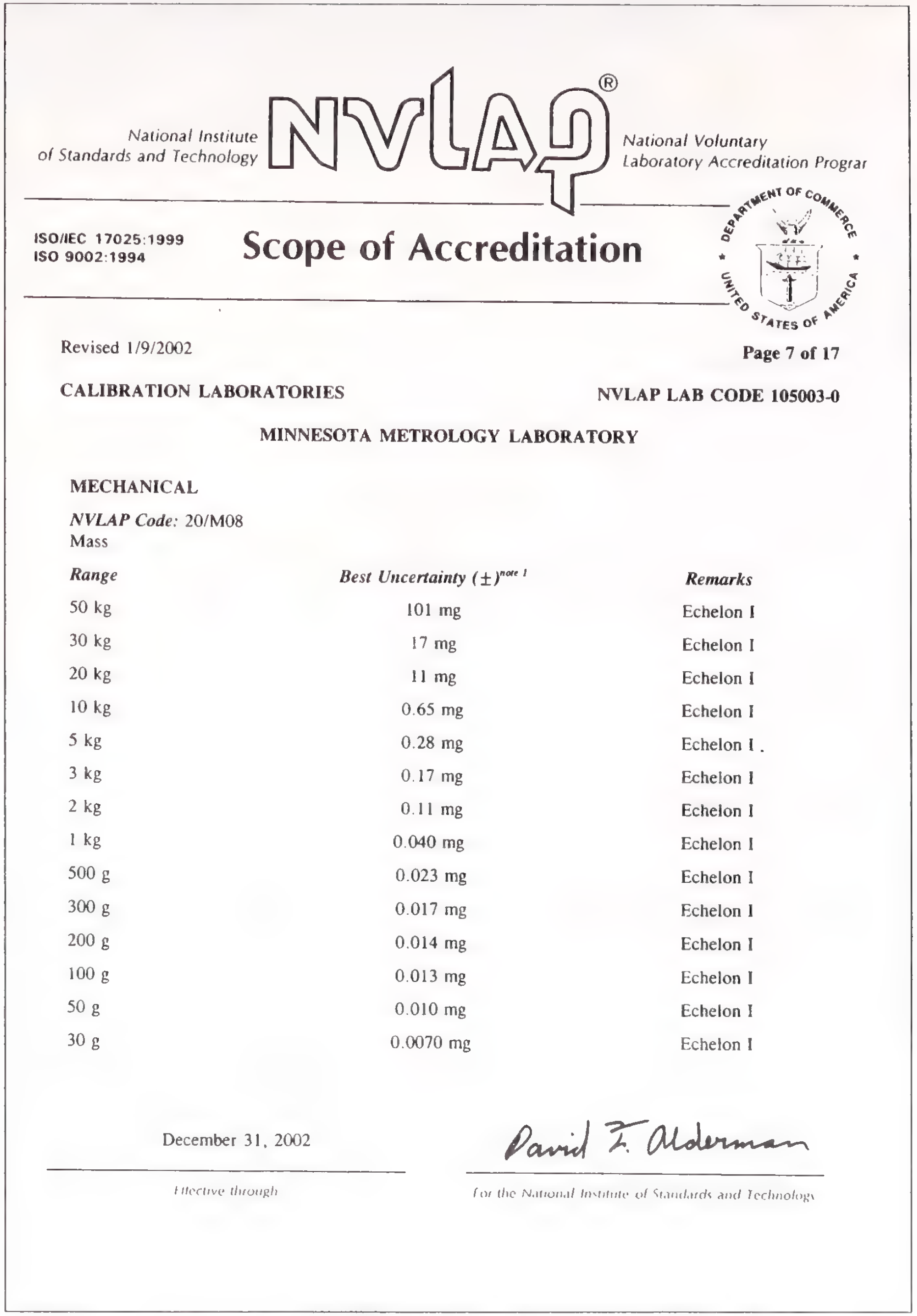

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MINNESOTA METROLOGY LABORATORY

MECHANICAL

NVLAP Code: 20/M08
Mass

Range	*Best Uncertainty* (±)$^{note\ 1}$	*Remarks*
50 kg	101 mg	Echelon I
30 kg	17 mg	Echelon I
20 kg	11 mg	Echelon I
10 kg	0.65 mg	Echelon I
5 kg	0.28 mg	Echelon I .
3 kg	0.17 mg	Echelon I
2 kg	0.11 mg	Echelon I
1 kg	0.040 mg	Echelon I
500 g	0.023 mg	Echelon I
300 g	0.017 mg	Echelon I
200 g	0.014 mg	Echelon I
100 g	0.013 mg	Echelon I
50 g	0.010 mg	Echelon I
30 g	0.0070 mg	Echelon I

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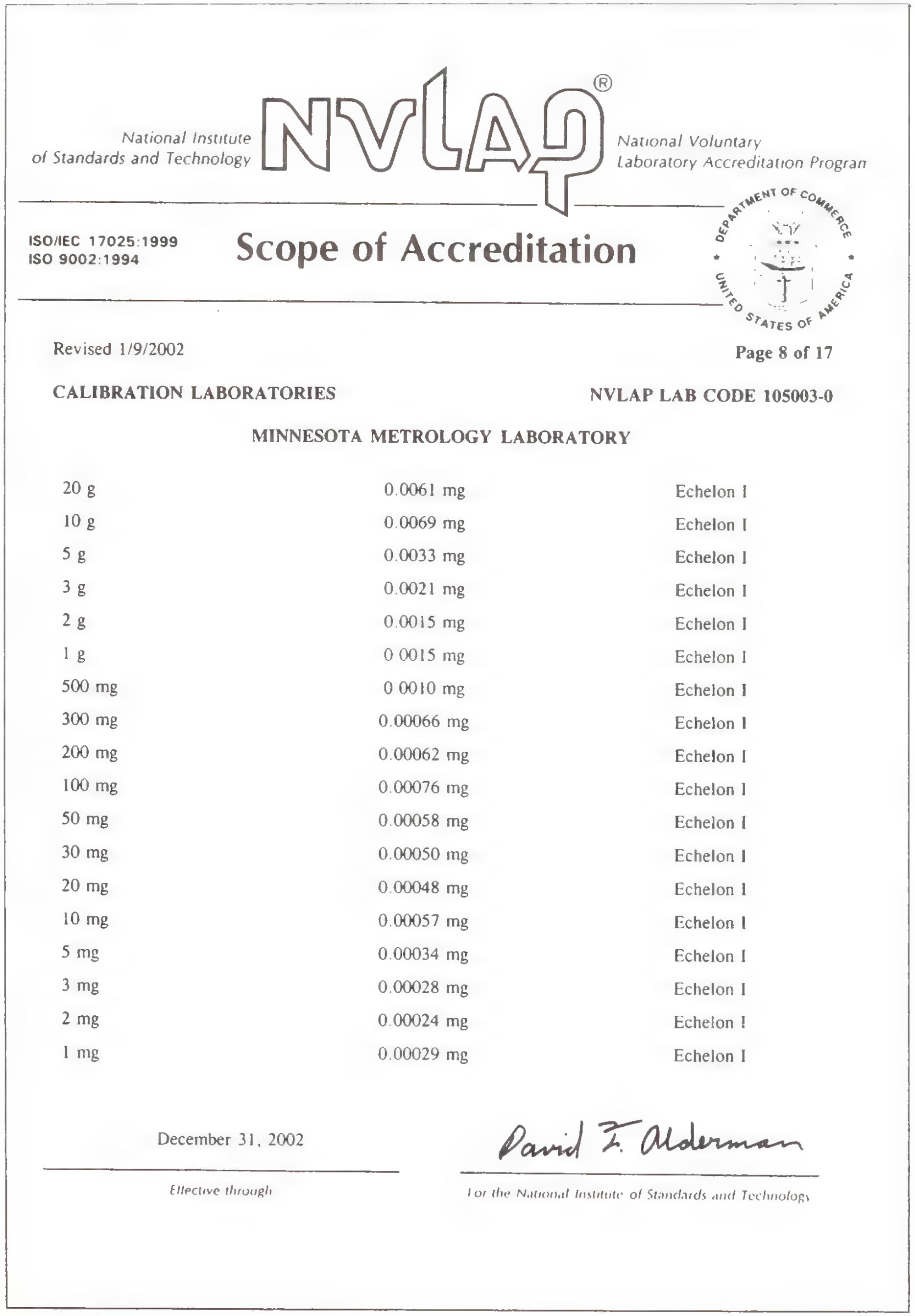

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MINNESOTA METROLOGY LABORATORY

20 g	0.0061 mg	Echelon I
10 g	0.0069 mg	Echelon I
5 g	0.0033 mg	Echelon I
3 g	0.0021 mg	Echelon I
2 g	0.0015 mg	Echelon I
1 g	0.0015 mg	Echelon I
500 mg	0.0010 mg	Echelon I
300 mg	0.00066 mg	Echelon I
200 mg	0.00062 mg	Echelon I
100 mg	0.00076 mg	Echelon I
50 mg	0.00058 mg	Echelon I
30 mg	0.00050 mg	Echelon I
20 mg	0.00048 mg	Echelon I
10 mg	0.00057 mg	Echelon I
5 mg	0.00034 mg	Echelon I
3 mg	0.00028 mg	Echelon I
2 mg	0.00024 mg	Echelon I
1 mg	0.00029 mg	Echelon I

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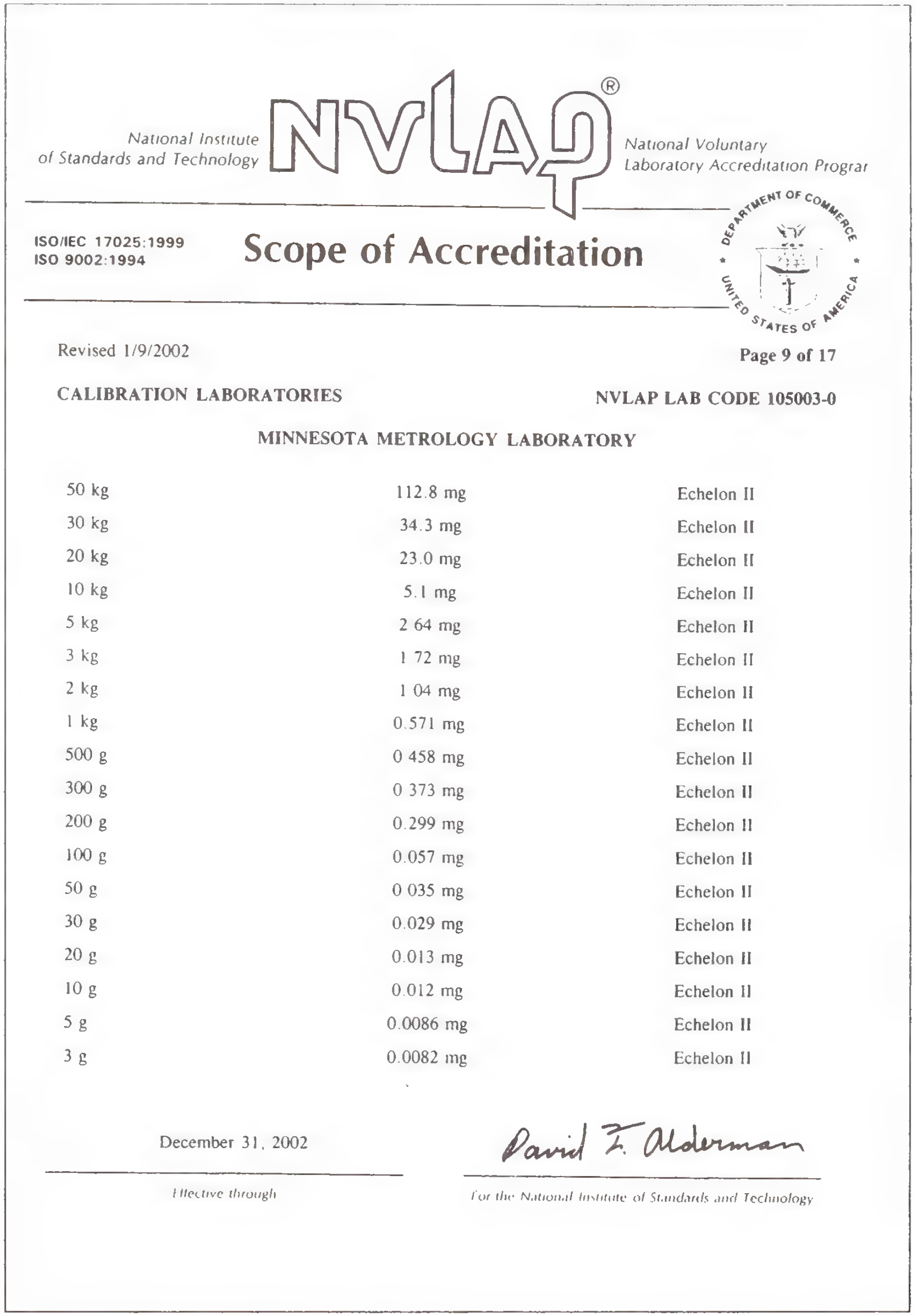

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MINNESOTA METROLOGY LABORATORY

50 kg	112.8 mg	Echelon II
30 kg	34.3 mg	Echelon II
20 kg	23.0 mg	Echelon II
10 kg	5.1 mg	Echelon II
5 kg	2.64 mg	Echelon II
3 kg	1.72 mg	Echelon II
2 kg	1.04 mg	Echelon II
1 kg	0.571 mg	Echelon II
500 g	0.458 mg	Echelon II
300 g	0.373 mg	Echelon II
200 g	0.299 mg	Echelon II
100 g	0.057 mg	Echelon II
50 g	0.035 mg	Echelon II
30 g	0.029 mg	Echelon II
20 g	0.013 mg	Echelon II
10 g	0.012 mg	Echelon II
5 g	0.0086 mg	Echelon II
3 g	0.0082 mg	Echelon II

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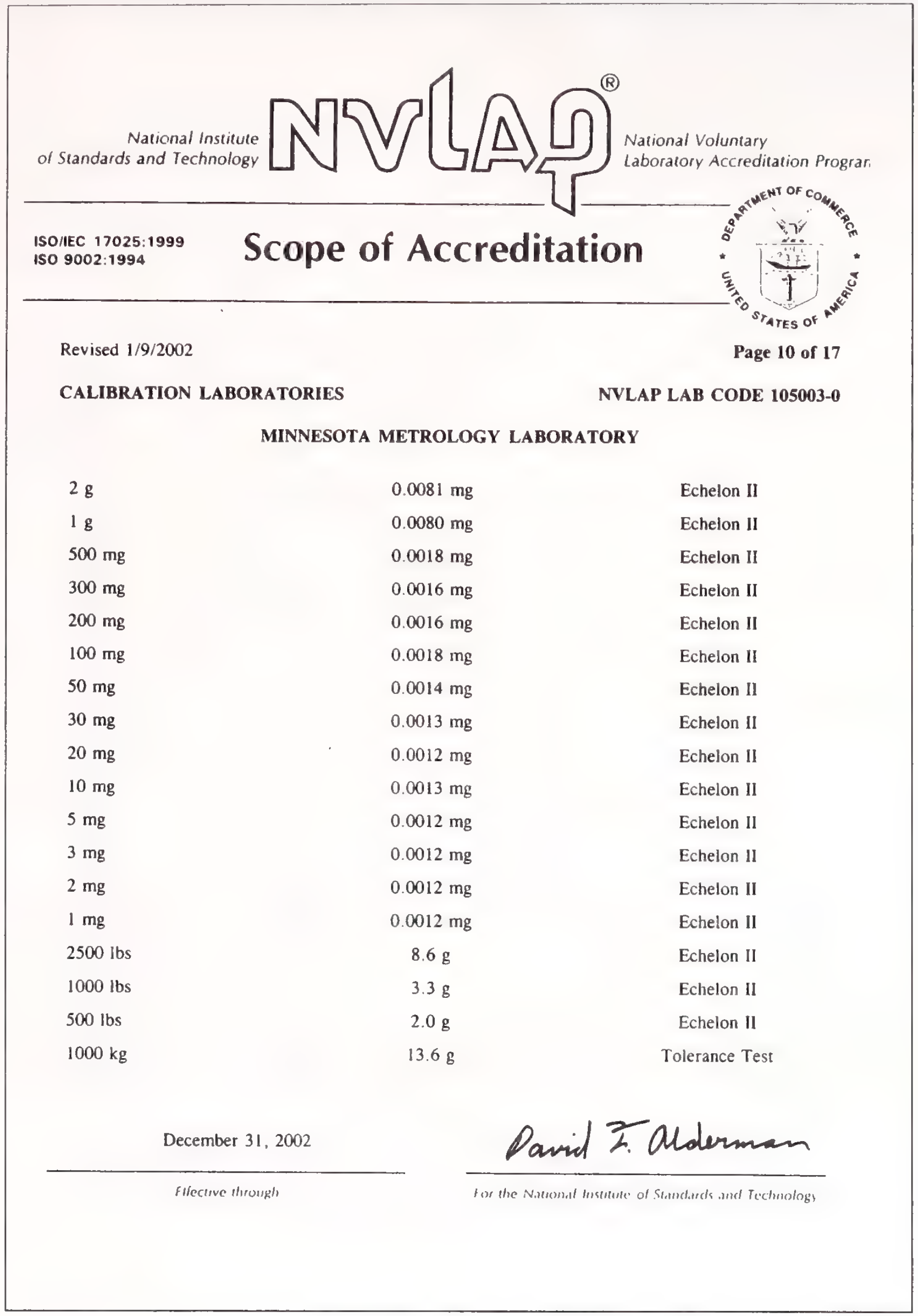

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MINNESOTA METROLOGY LABORATORY

2 g	0.0081 mg	Echelon II
1 g	0.0080 mg	Echelon II
500 mg	0.0018 mg	Echelon II
300 mg	0.0016 mg	Echelon II
200 mg	0.0016 mg	Echelon II
100 mg	0.0018 mg	Echelon II
50 mg	0.0014 mg	Echelon II
30 mg	0.0013 mg	Echelon II
20 mg	0.0012 mg	Echelon II
10 mg	0.0013 mg	Echelon II
5 mg	0.0012 mg	Echelon II
3 mg	0.0012 mg	Echelon II
2 mg	0.0012 mg	Echelon II
1 mg	0.0012 mg	Echelon II
2500 lbs	8.6 g	Echelon II
1000 lbs	3.3 g	Echelon II
500 lbs	2.0 g	Echelon II
1000 kg	13.6 g	Tolerance Test

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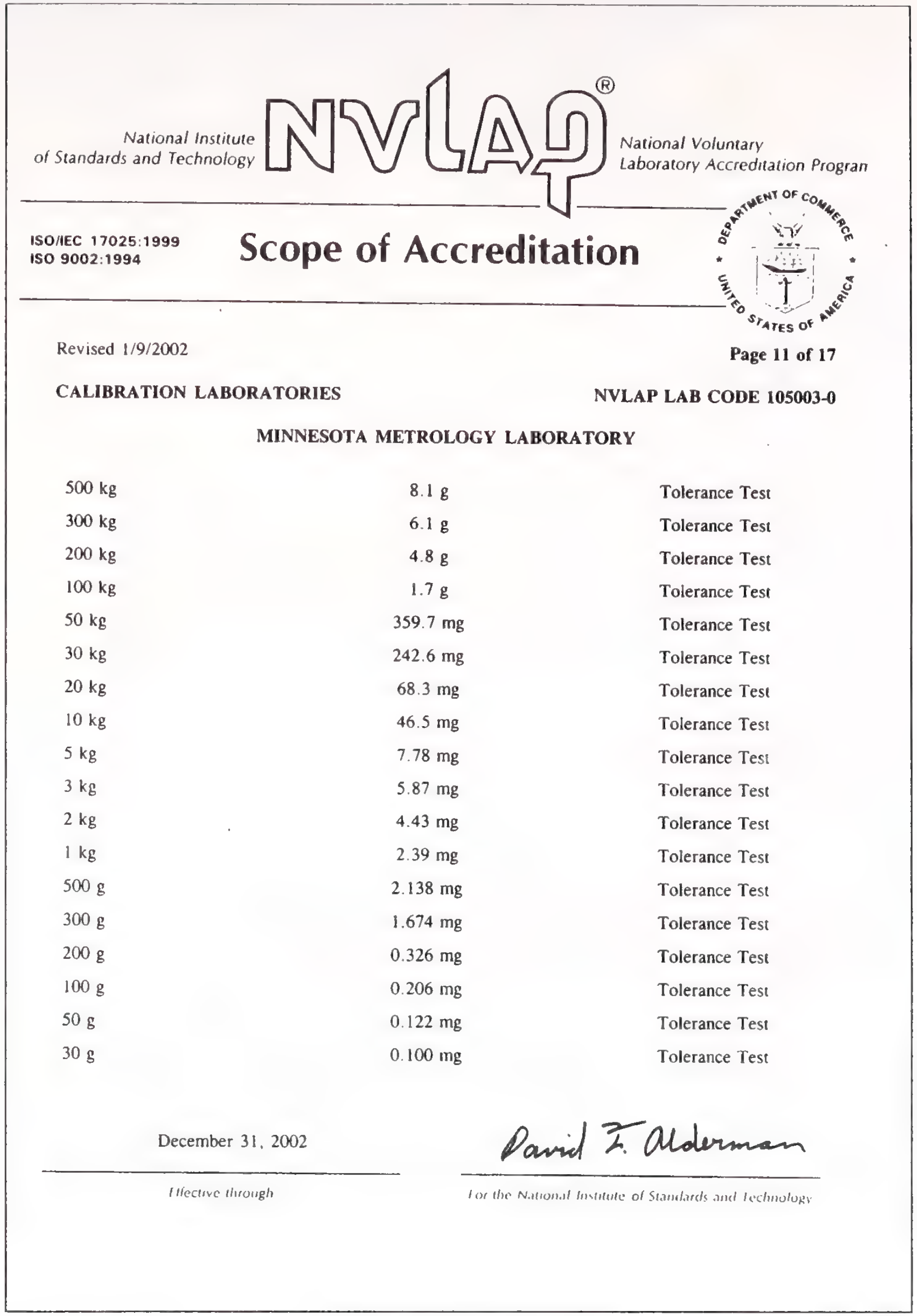

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MINNESOTA METROLOGY LABORATORY

500 kg	8.1 g	Tolerance Test
300 kg	6.1 g	Tolerance Test
200 kg	4.8 g	Tolerance Test
100 kg	1.7 g	Tolerance Test
50 kg	359.7 mg	Tolerance Test
30 kg	242.6 mg	Tolerance Test
20 kg	68.3 mg	Tolerance Test
10 kg	46.5 mg	Tolerance Test
5 kg	7.78 mg	Tolerance Test
3 kg	5.87 mg	Tolerance Test
2 kg	4.43 mg	Tolerance Test
1 kg	2.39 mg	Tolerance Test
500 g	2.138 mg	Tolerance Test
300 g	1.674 mg	Tolerance Test
200 g	0.326 mg	Tolerance Test
100 g	0.206 mg	Tolerance Test
50 g	0.122 mg	Tolerance Test
30 g	0.100 mg	Tolerance Test

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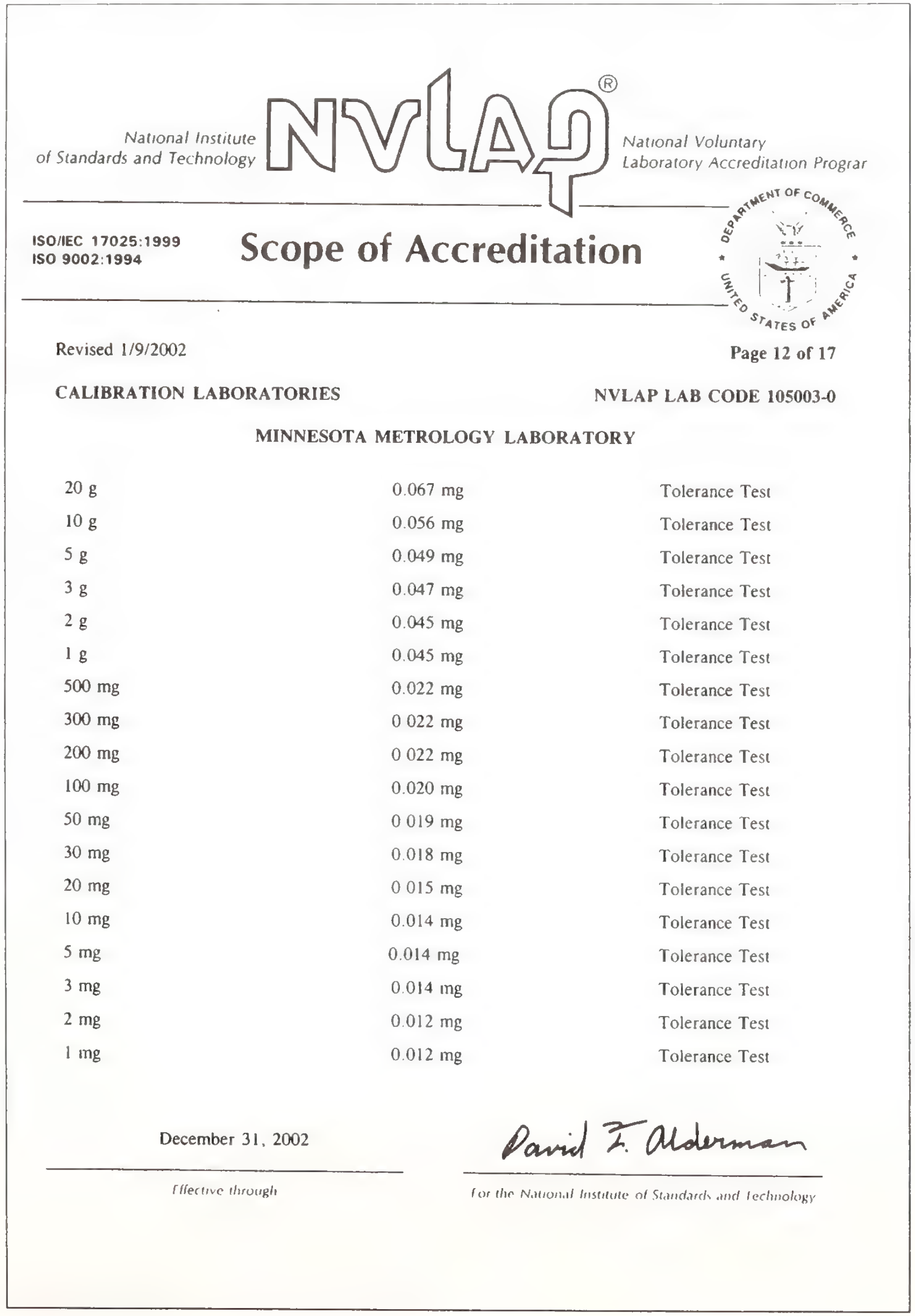

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MINNESOTA METROLOGY LABORATORY

20 g	0.067 mg	Tolerance Test
10 g	0.056 mg	Tolerance Test
5 g	0.049 mg	Tolerance Test
3 g	0.047 mg	Tolerance Test
2 g	0.045 mg	Tolerance Test
1 g	0.045 mg	Tolerance Test
500 mg	0.022 mg	Tolerance Test
300 mg	0 022 mg	Tolerance Test
200 mg	0 022 mg	Tolerance Test
100 mg	0.020 mg	Tolerance Test
50 mg	0 019 mg	Tolerance Test
30 mg	0.018 mg	Tolerance Test
20 mg	0 015 mg	Tolerance Test
10 mg	0.014 mg	Tolerance Test
5 mg	0.014 mg	Tolerance Test
3 mg	0.014 mg	Tolerance Test
2 mg	0.012 mg	Tolerance Test
1 mg	0.012 mg	Tolerance Test

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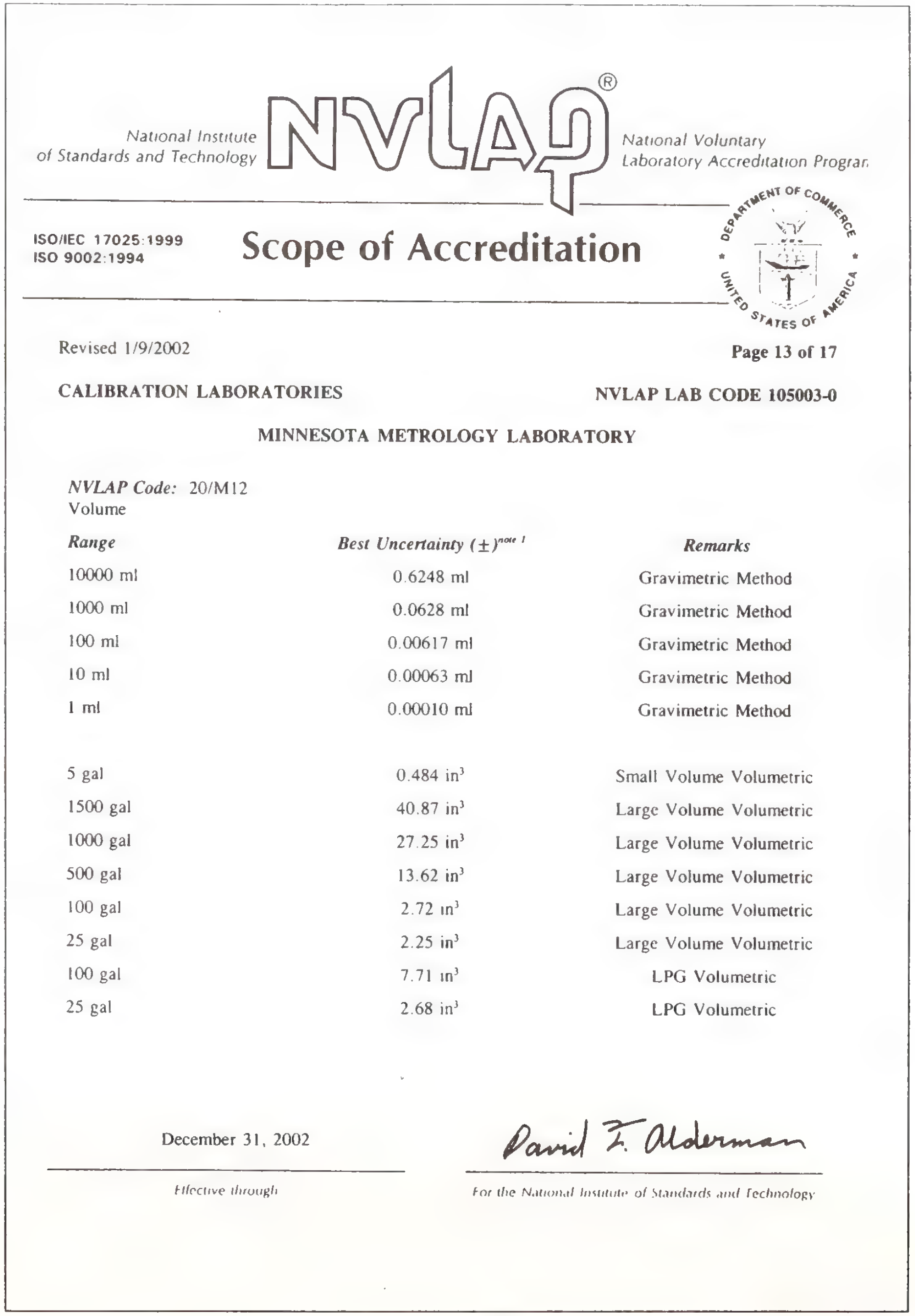

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MINNESOTA METROLOGY LABORATORY

NVLAP Code: 20/M12
Volume

Range	*Best Uncertainty* $(\pm)^{note\ 1}$	*Remarks*
10000 ml	0.6248 ml	Gravimetric Method
1000 ml	0.0628 ml	Gravimetric Method
100 ml	0.00617 ml	Gravimetric Method
10 ml	0.00063 ml	Gravimetric Method
1 ml	0.00010 ml	Gravimetric Method
5 gal	0.484 in^3	Small Volume Volumetric
1500 gal	40.87 in^3	Large Volume Volumetric
1000 gal	27.25 in^3	Large Volume Volumetric
500 gal	13.62 in^3	Large Volume Volumetric
100 gal	2.72 in^3	Large Volume Volumetric
25 gal	2.25 in^3	Large Volume Volumetric
100 gal	7.71 in^3	LPG Volumetric
25 gal	2.68 in^3	LPG Volumetric

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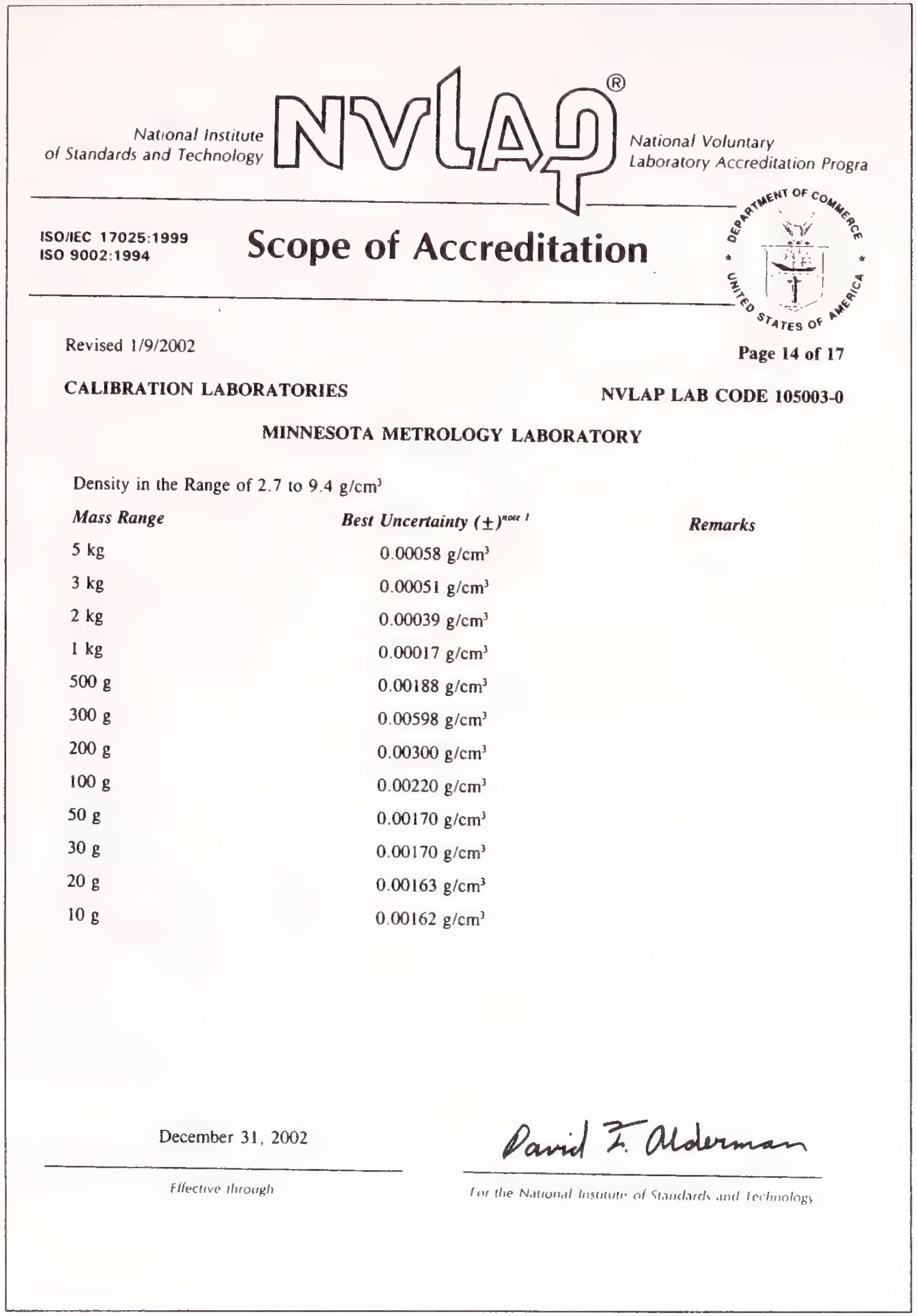

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CALIBRATION LABORATORIES

NVLAP LAB CODE 105003-0

MINNESOTA METROLOGY LABORATORY

Density in the Range of 2.7 to 9.4 g/cm³

Mass Range	*Best Uncertainty* (±)$^{note\ 1}$	*Remarks*
5 kg	0.00058 g/cm³	
3 kg	0.00051 g/cm³	
2 kg	0.00039 g/cm³	
1 kg	0.00017 g/cm³	
500 g	0.00188 g/cm³	
300 g	0.00598 g/cm³	
200 g	0.00300 g/cm³	
100 g	0.00220 g/cm³	
50 g	0.00170 g/cm³	
30 g	0.00170 g/cm³	
20 g	0.00163 g/cm³	
10 g	0.00162 g/cm³	

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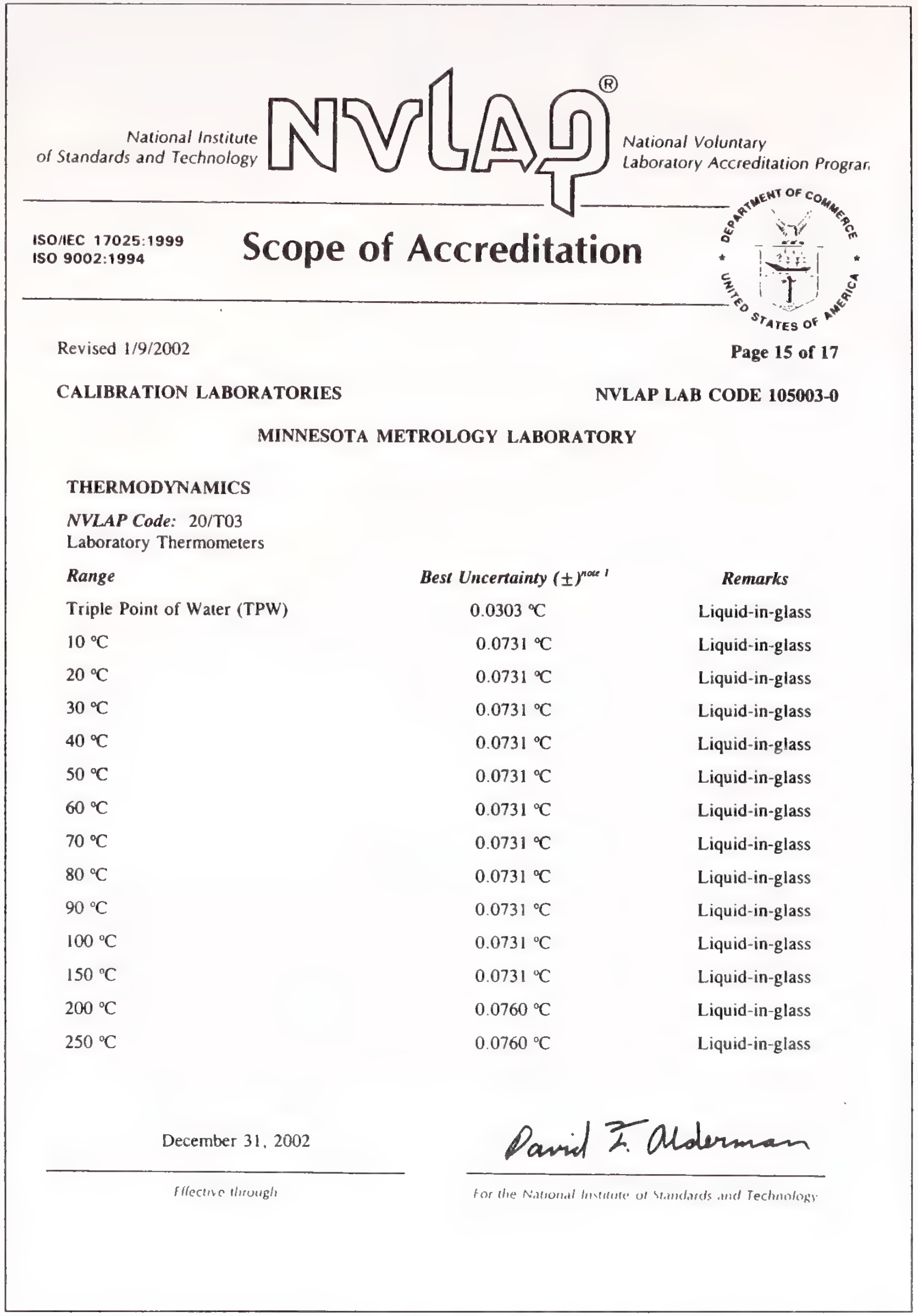

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CALIBRATION LABORATORIES

NVLAP LAB CODE 105003-0

MINNESOTA METROLOGY LABORATORY

THERMODYNAMICS

NVLAP Code: 20/T03
Laboratory Thermometers

Range	*Best Uncertainty* (±)$^{note\ 1}$	*Remarks*
Triple Point of Water (TPW)	0.0303 °C	Liquid-in-glass
10 °C	0.0731 °C	Liquid-in-glass
20 °C	0.0731 °C	Liquid-in-glass
30 °C	0.0731 °C	Liquid-in-glass
40 °C	0.0731 °C	Liquid-in-glass
50 °C	0.0731 °C	Liquid-in-glass
60 °C	0.0731 °C	Liquid-in-glass
70 °C	0.0731 °C	Liquid-in-glass
80 °C	0.0731 °C	Liquid-in-glass
90 °C	0.0731 °C	Liquid-in-glass
100 °C	0.0731 °C	Liquid-in-glass
150 °C	0.0731 °C	Liquid-in-glass
200 °C	0.0760 °C	Liquid-in-glass
250 °C	0.0760 °C	Liquid-in-glass

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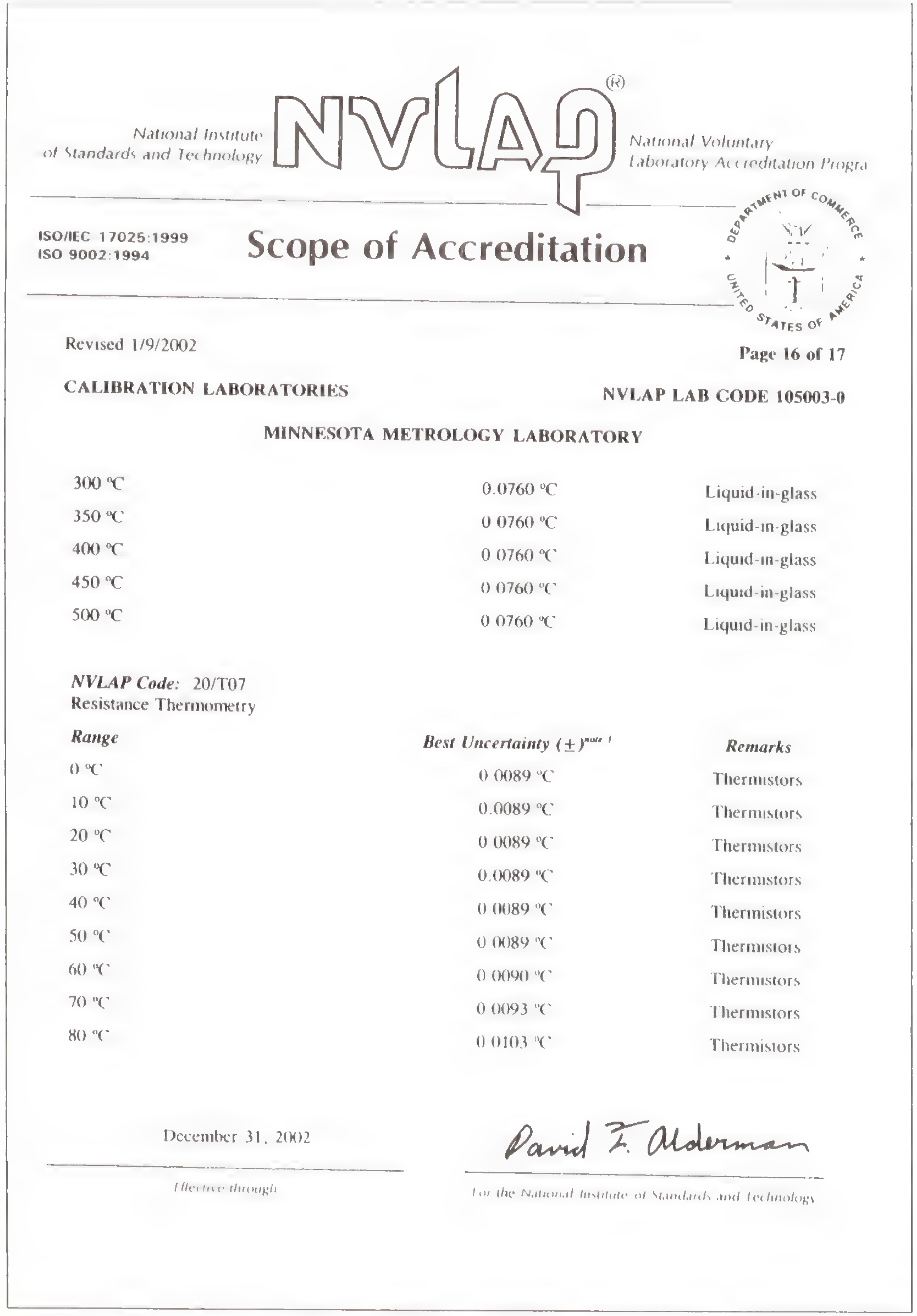

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CALIBRATION LABORATORIES

NVLAP LAB CODE 105003-0

MINNESOTA METROLOGY LABORATORY

300 °C	0.0760 °C	Liquid-in-glass
350 °C	0 0760 °C	Liquid-in-glass
400 °C	0 0760 °C	Liquid-in-glass
450 °C	0 0760 °C	Liquid-in-glass
500 °C	0 0760 °C	Liquid-in-glass

NVLAP Code: 20/T07
Resistance Thermometry

Range	*Best Uncertainty* (±)$^{note\ 1}$	*Remarks*
0 °C	0 0089 °C	Thermistors
10 °C	0.0089 °C	Thermistors
20 °C	0 0089 °C	Thermistors
30 °C	0.0089 °C	Thermistors
40 °C	0 0089 °C	Thermistors
50 °C	0 0089 °C	Thermistors
60 °C	0 0090 °C	Thermistors
70 °C	0 0093 °C	Thermistors
80 °C	0 0103 °C	Thermistors

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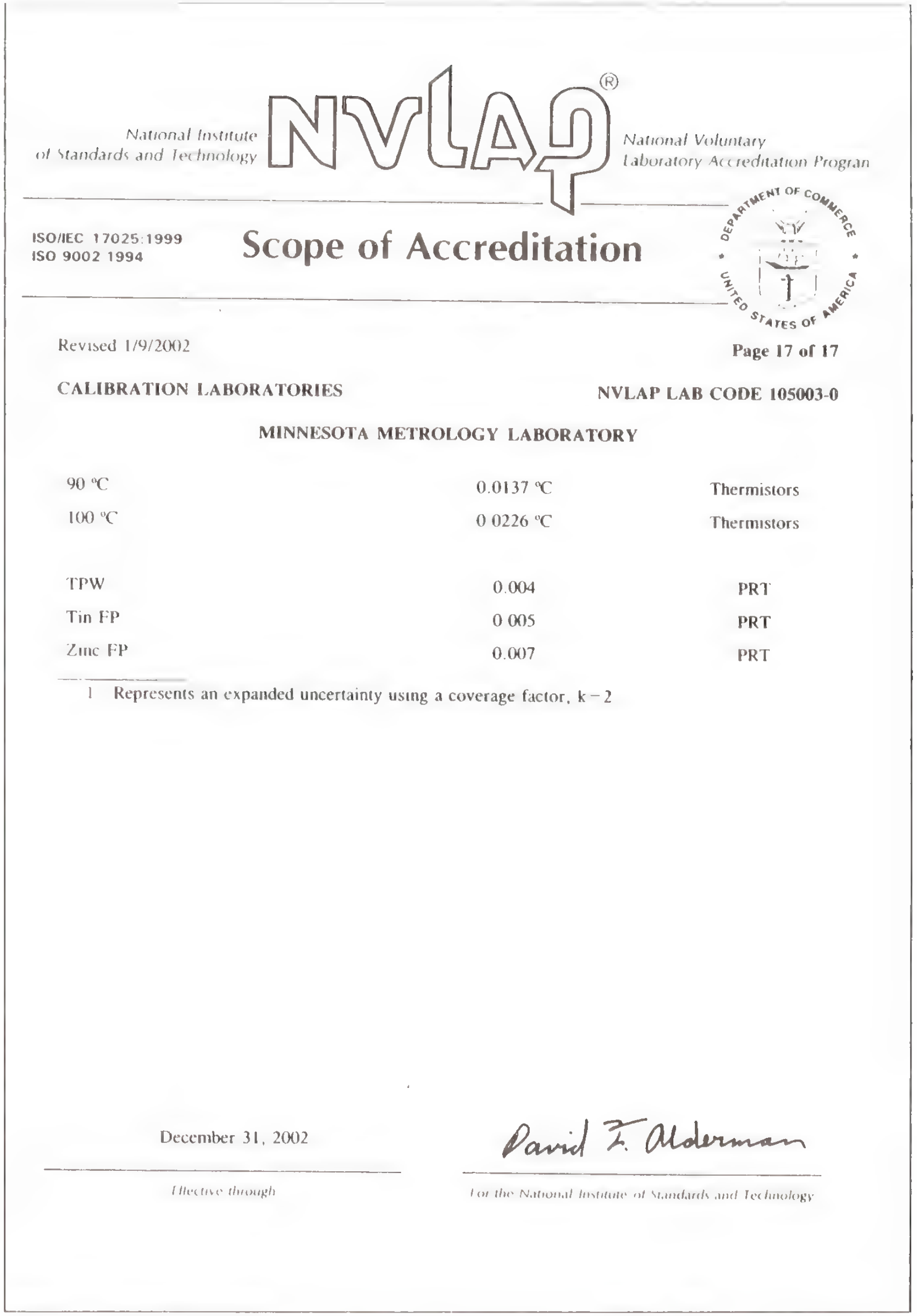

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MINNESOTA METROLOGY LABORATORY

90 °C	0.0137 °C	Thermistors
100 °C	0 0226 °C	Thermistors
TPW	0.004	PRT
Tin FP	0 005	PRT
Zinc FP	0.007	PRT

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1 Represents an expanded uncertainty using a coverage factor, k = 2

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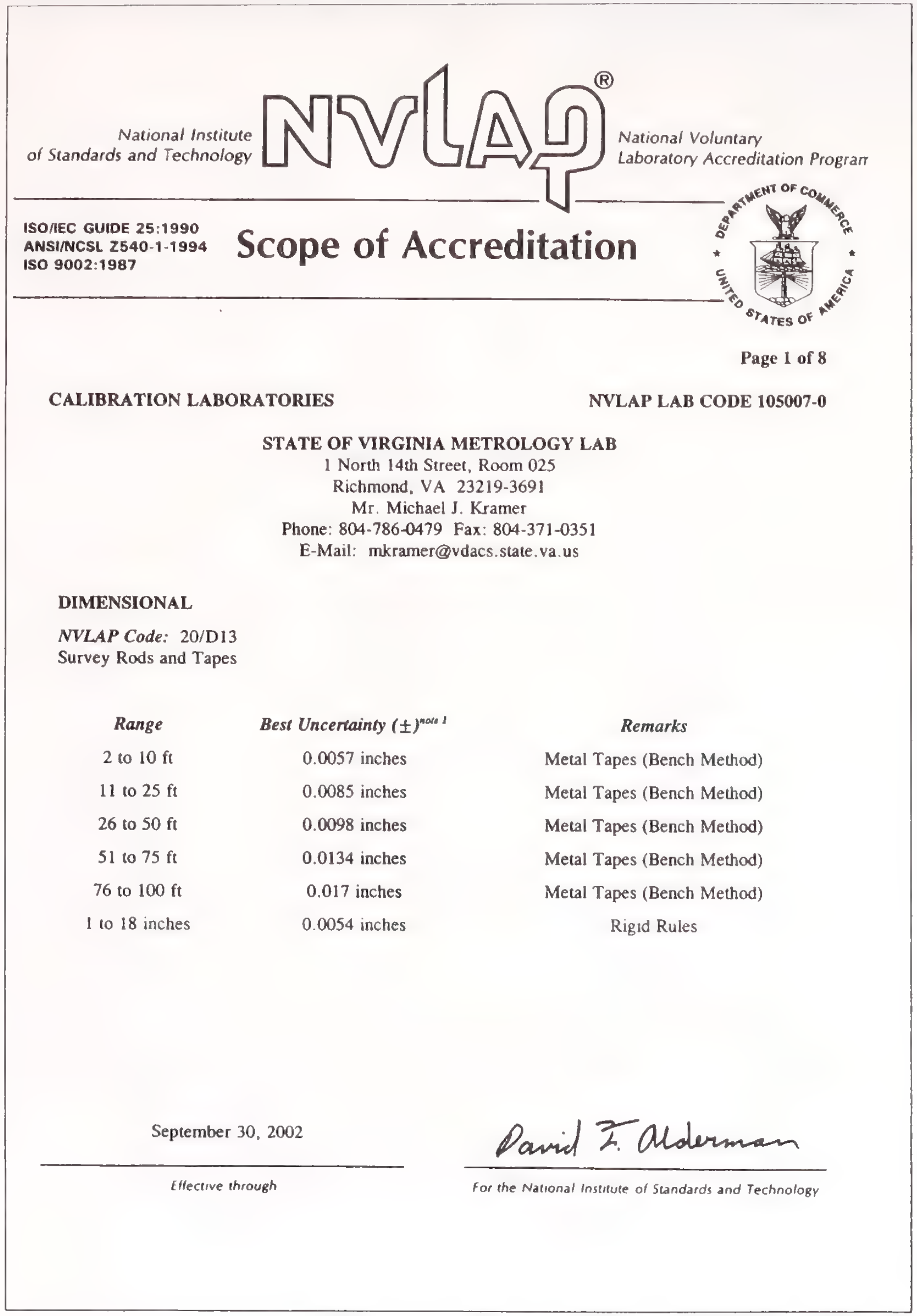

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CALIBRATION LABORATORIES **NVLAP LAB CODE 105007-0**

STATE OF VIRGINIA METROLOGY LAB
1 North 14th Street, Room 025
Richmond, VA 23219-3691
Mr. Michael J. Kramer
Phone: 804-786-0479 Fax: 804-371-0351
E-Mail: mkramer@vdacs.state.va.us

DIMENSIONAL

NVLAP Code: 20/D13
Survey Rods and Tapes

Range	*Best Uncertainty* (±)$^{note\ 1}$	*Remarks*
2 to 10 ft	0.0057 inches	Metal Tapes (Bench Method)
11 to 25 ft	0.0085 inches	Metal Tapes (Bench Method)
26 to 50 ft	0.0098 inches	Metal Tapes (Bench Method)
51 to 75 ft	0.0134 inches	Metal Tapes (Bench Method)
76 to 100 ft	0.017 inches	Metal Tapes (Bench Method)
1 to 18 inches	0.0054 inches	Rigid Rules

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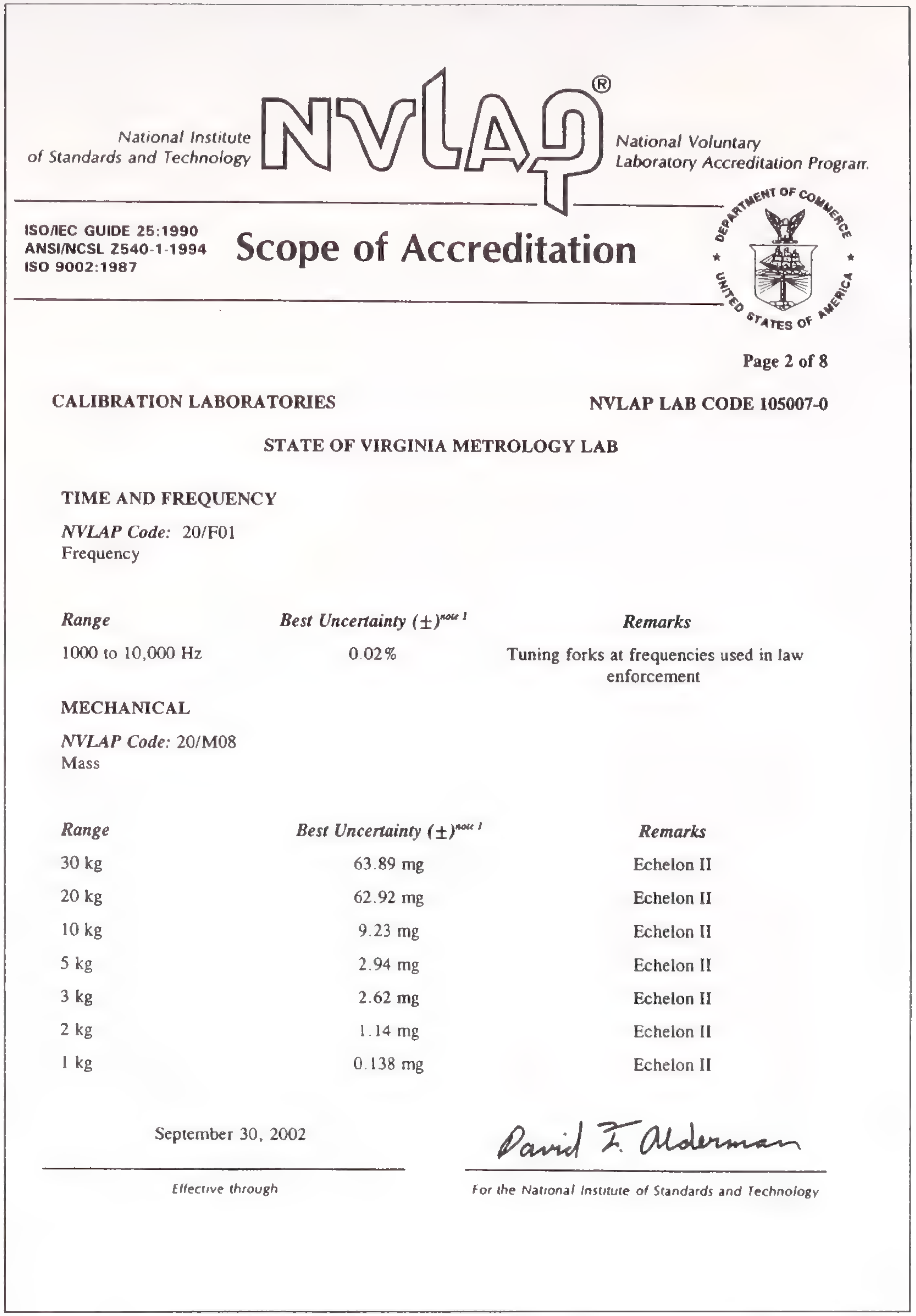

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STATE OF VIRGINIA METROLOGY LAB

TIME AND FREQUENCY

NVLAP Code: 20/F01
Frequency

Range	*Best Uncertainty* (±)$^{note\ 1}$	*Remarks*
1000 to 10,000 Hz	0.02%	Tuning forks at frequencies used in law enforcement

MECHANICAL

NVLAP Code: 20/M08
Mass

Range	*Best Uncertainty* (±)$^{note\ 1}$	*Remarks*
30 kg	63.89 mg	Echelon II
20 kg	62.92 mg	Echelon II
10 kg	9.23 mg	Echelon II
5 kg	2.94 mg	Echelon II
3 kg	2.62 mg	Echelon II
2 kg	1.14 mg	Echelon II
1 kg	0.138 mg	Echelon II

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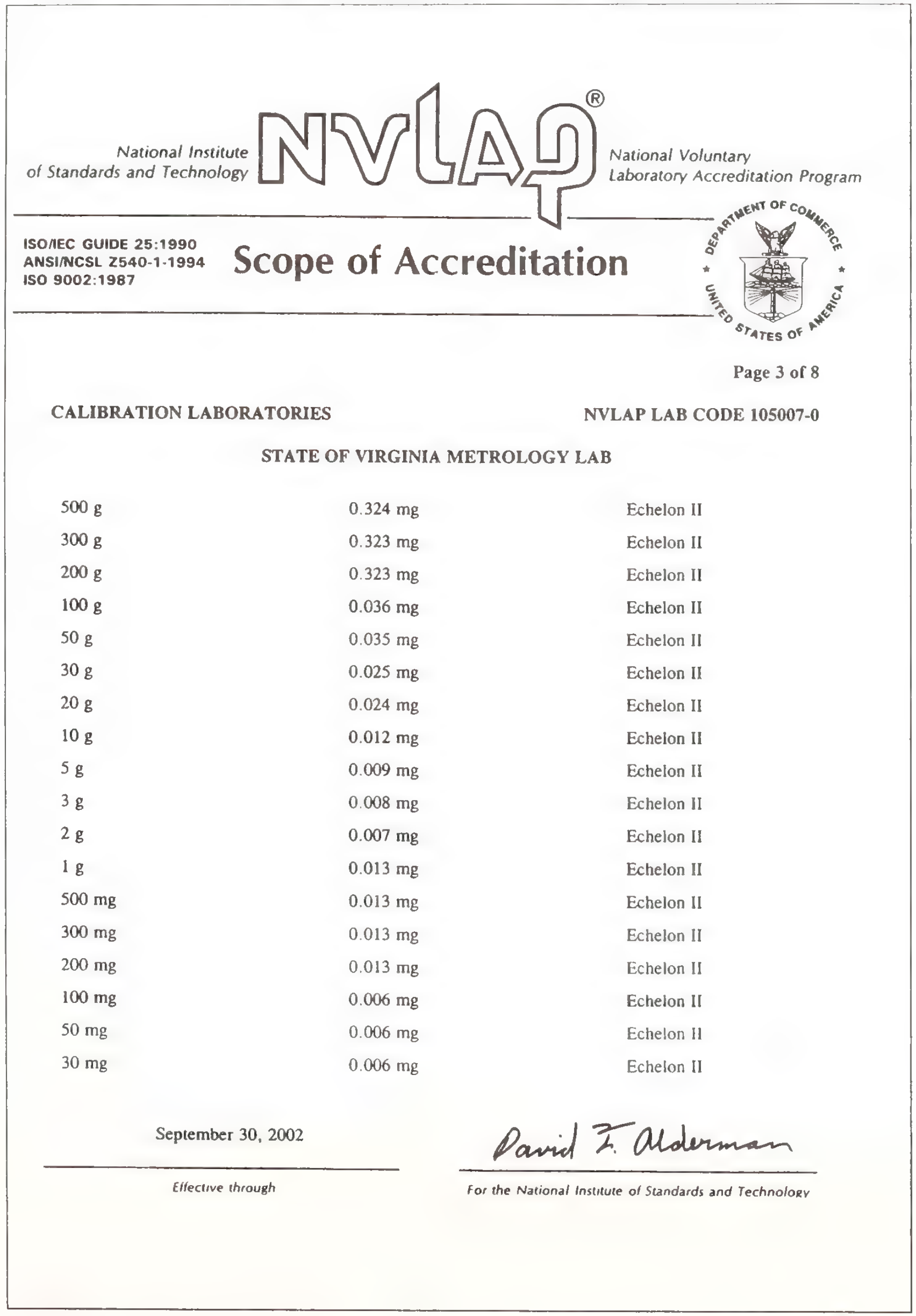

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STATE OF VIRGINIA METROLOGY LAB

500 g	0.324 mg	Echelon II
300 g	0.323 mg	Echelon II
200 g	0.323 mg	Echelon II
100 g	0.036 mg	Echelon II
50 g	0.035 mg	Echelon II
30 g	0.025 mg	Echelon II
20 g	0.024 mg	Echelon II
10 g	0.012 mg	Echelon II
5 g	0.009 mg	Echelon II
3 g	0.008 mg	Echelon II
2 g	0.007 mg	Echelon II
1 g	0.013 mg	Echelon II
500 mg	0.013 mg	Echelon II
300 mg	0.013 mg	Echelon II
200 mg	0.013 mg	Echelon II
100 mg	0.006 mg	Echelon II
50 mg	0.006 mg	Echelon II
30 mg	0.006 mg	Echelon II

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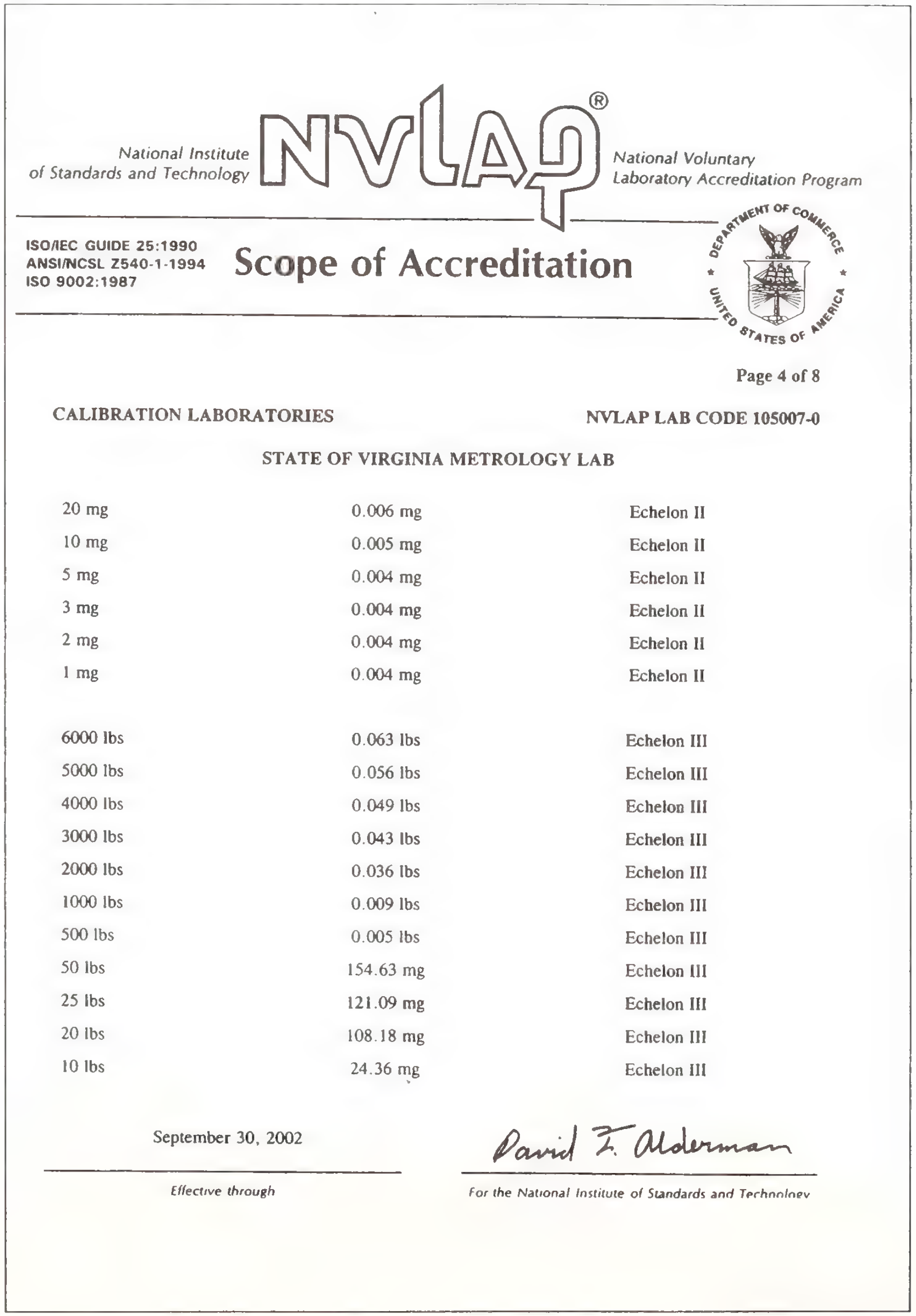

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STATE OF VIRGINIA METROLOGY LAB

20 mg	0.006 mg	Echelon II
10 mg	0.005 mg	Echelon II
5 mg	0.004 mg	Echelon II
3 mg	0.004 mg	Echelon II
2 mg	0.004 mg	Echelon II
1 mg	0.004 mg	Echelon II
6000 lbs	0.063 lbs	Echelon III
5000 lbs	0.056 lbs	Echelon III
4000 lbs	0.049 lbs	Echelon III
3000 lbs	0.043 lbs	Echelon III
2000 lbs	0.036 lbs	Echelon III
1000 lbs	0.009 lbs	Echelon III
500 lbs	0.005 lbs	Echelon III
50 lbs	154.63 mg	Echelon III
25 lbs	121.09 mg	Echelon III
20 lbs	108.18 mg	Echelon III
10 lbs	24.36 mg	Echelon III

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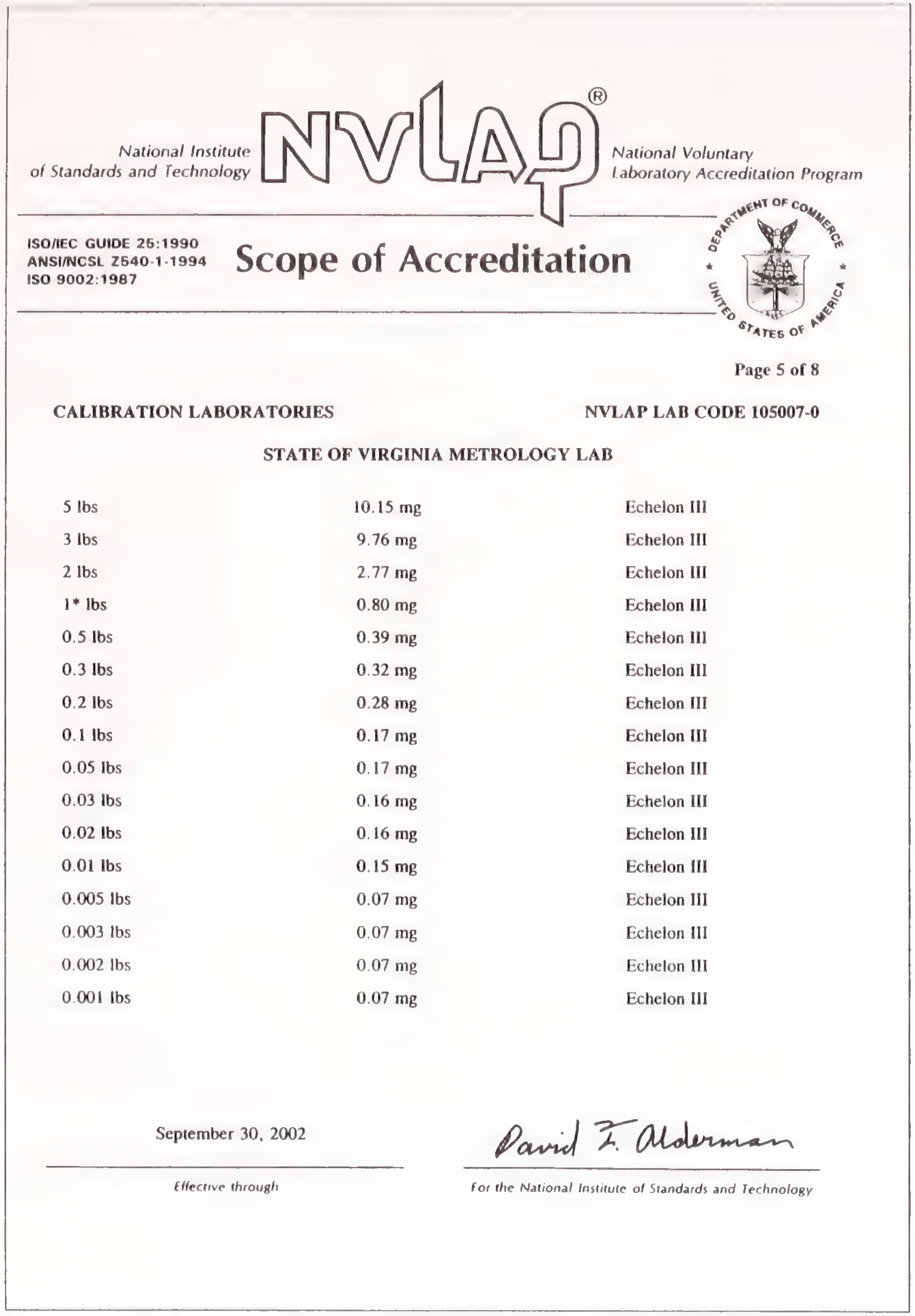

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STATE OF VIRGINIA METROLOGY LAB

5 lbs	10.15 mg	Echelon III
3 lbs	9.76 mg	Echelon III
2 lbs	2.77 mg	Echelon III
1* lbs	0.80 mg	Echelon III
0.5 lbs	0.39 mg	Echelon III
0.3 lbs	0.32 mg	Echelon III
0.2 lbs	0.28 mg	Echelon III
0.1 lbs	0.17 mg	Echelon III
0.05 lbs	0.17 mg	Echelon III
0.03 lbs	0.16 mg	Echelon III
0.02 lbs	0.16 mg	Echelon III
0.01 lbs	0.15 mg	Echelon III
0.005 lbs	0.07 mg	Echelon III
0.003 lbs	0.07 mg	Echelon III
0.002 lbs	0.07 mg	Echelon III
0.001 lbs	0.07 mg	Echelon III

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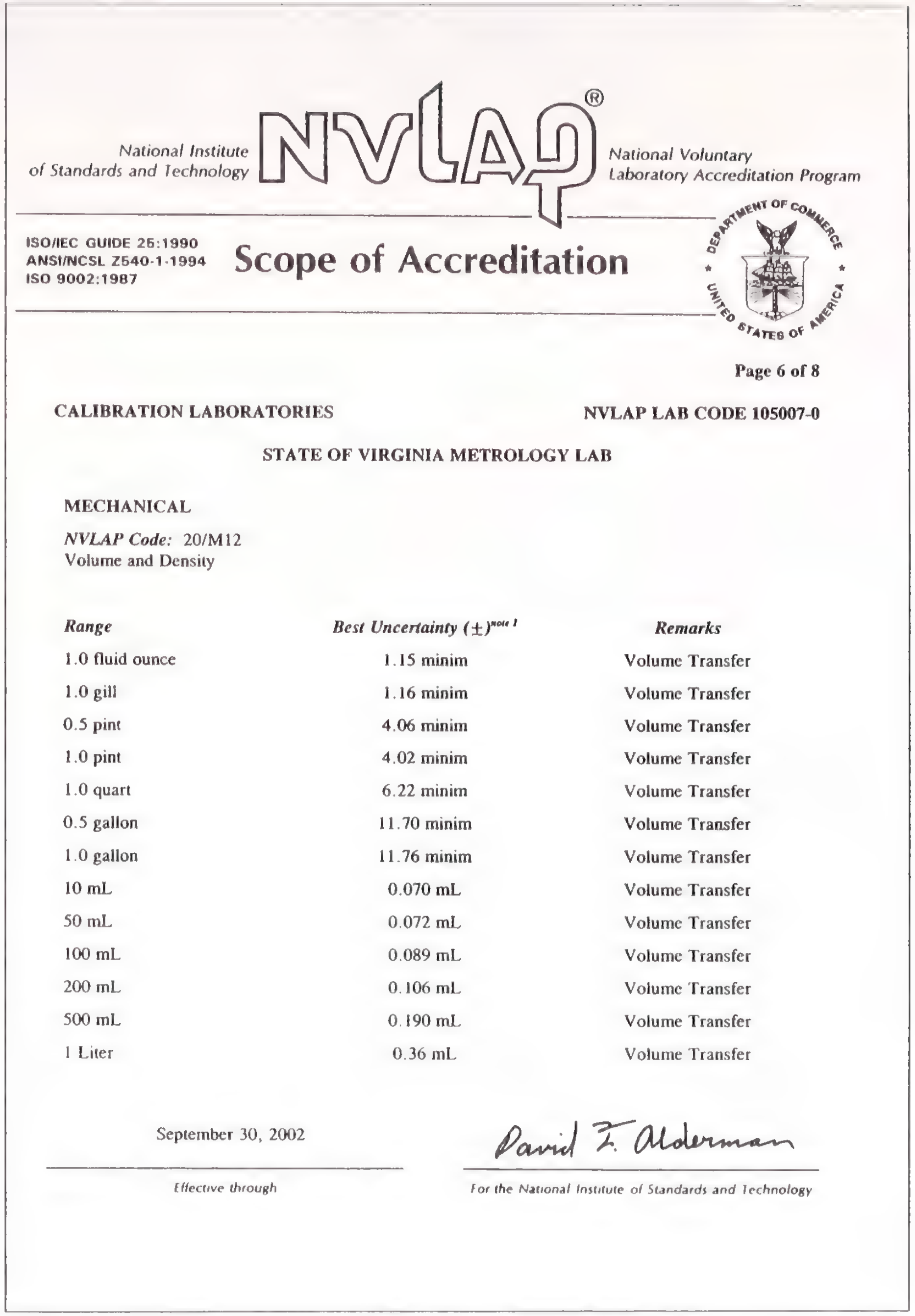

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STATE OF VIRGINIA METROLOGY LAB

MECHANICAL

NVLAP Code: 20/M12
Volume and Density

Range	*Best Uncertainty* (±)$^{note\ 1}$	*Remarks*
1.0 fluid ounce	1.15 minim	Volume Transfer
1.0 gill	1.16 minim	Volume Transfer
0.5 pint	4.06 minim	Volume Transfer
1.0 pint	4.02 minim	Volume Transfer
1.0 quart	6.22 minim	Volume Transfer
0.5 gallon	11.70 minim	Volume Transfer
1.0 gallon	11.76 minim	Volume Transfer
10 mL	0.070 mL	Volume Transfer
50 mL	0.072 mL	Volume Transfer
100 mL	0.089 mL	Volume Transfer
200 mL	0.106 mL	Volume Transfer
500 mL	0.190 mL	Volume Transfer
1 Liter	0.36 mL	Volume Transfer

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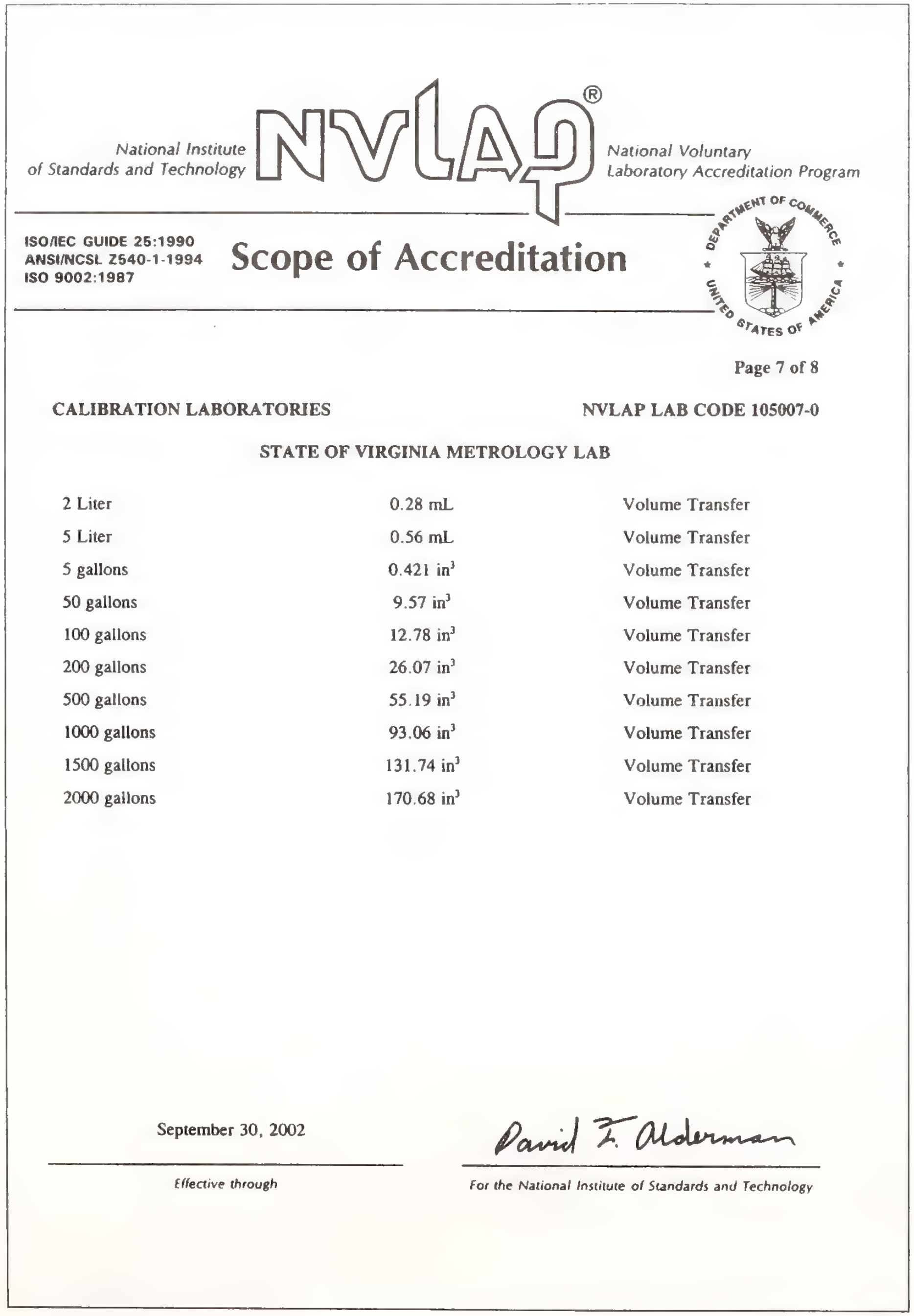

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STATE OF VIRGINIA METROLOGY LAB

2 Liter	0.28 mL	Volume Transfer
5 Liter	0.56 mL	Volume Transfer
5 gallons	0.421 in^3	Volume Transfer
50 gallons	9.57 in^3	Volume Transfer
100 gallons	12.78 in^3	Volume Transfer
200 gallons	26.07 in^3	Volume Transfer
500 gallons	55.19 in^3	Volume Transfer
1000 gallons	93.06 in^3	Volume Transfer
1500 gallons	131.74 in^3	Volume Transfer
2000 gallons	170.68 in^3	Volume Transfer

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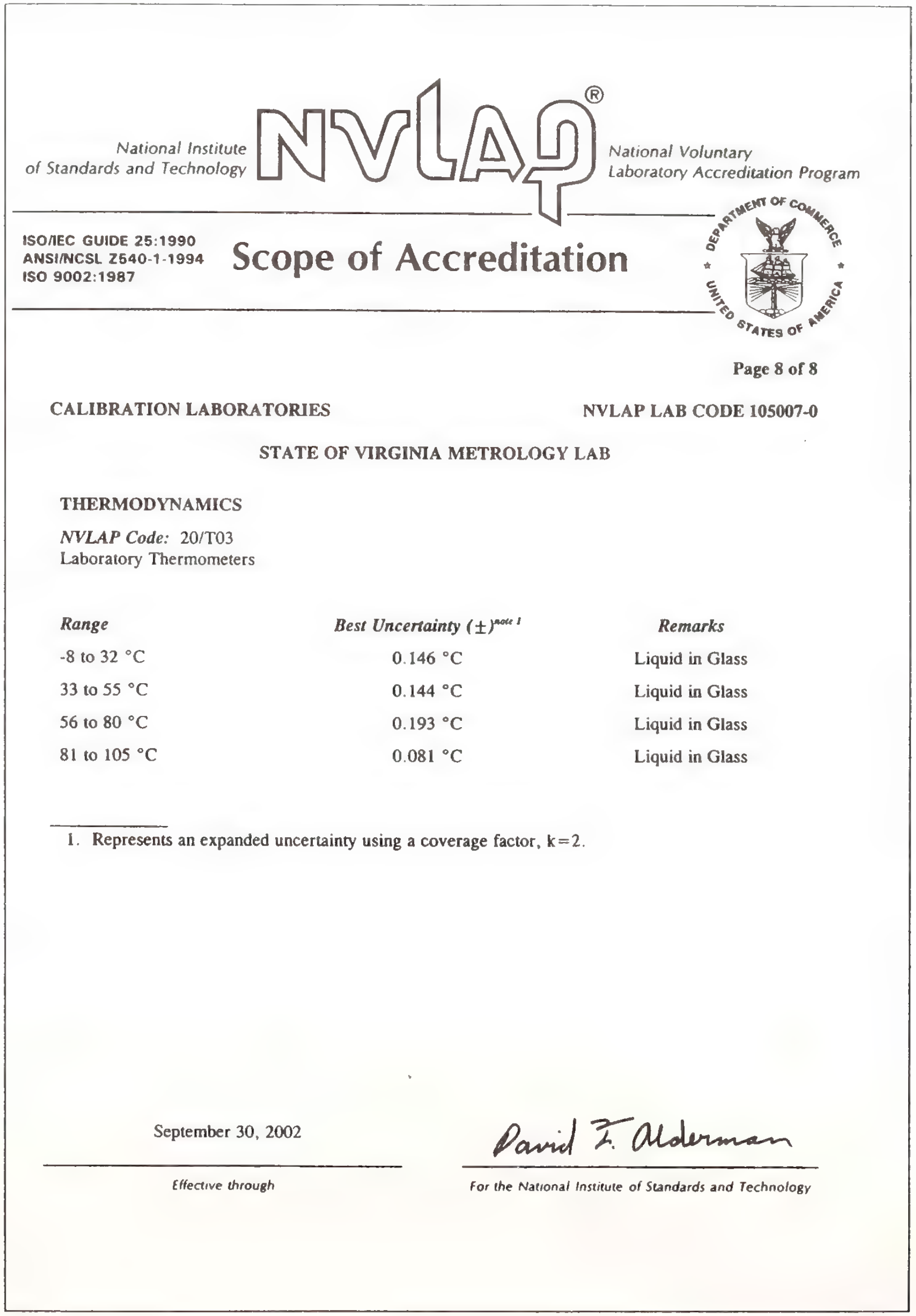

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CALIBRATION LABORATORIES NVLAP LAB CODE 105007-0

STATE OF VIRGINIA METROLOGY LAB

THERMODYNAMICS

NVLAP Code: 20/T03
Laboratory Thermometers

Range	*Best Uncertainty (±)*$^{note\ 1}$	*Remarks*
-8 to 32 °C	0.146 °C	Liquid in Glass
33 to 55 °C	0.144 °C	Liquid in Glass
56 to 80 °C	0.193 °C	Liquid in Glass
81 to 105 °C	0.081 °C	Liquid in Glass

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1. Represents an expanded uncertainty using a coverage factor, k=2.

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CALIBRATION LABORATORIES **NVLAP LAB CODE 105013-0**

HENRY TROEMNER, LLC
201 Wolf Drive
P.O. Box 87
Thorofare, NJ 08086-0087
Mr. Wilbert D. Abele
Phone: 856-686-1600 Fax: 856-686-1601
E-Mail: troemner@troemner.com
URL: http://www.troemner.com

MECHANICAL

NVLAP Code: 20/M08
Mass

Range	*Best Uncertainty* (±)$^{\text{notes } 1,2}$	*Remarks*
30 kg	10.0 mg	Echelon I
20 kg	4.0 mg	Echelon I
10 kg	0.7 mg	Echelon I
5 kg	0.3 mg	Echelon I
3 kg	0.19 mg	Echelon I
2 kg	0.14 mg	Echelon I
1 kg	0.05 mg	Echelon I
500 g	0.05 mg	Echelon I
300 g	0.04 mg	Echelon I
200 g	0.033 mg	Echelon I

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HENRY TROEMNER, LLC

100 g	0.017 mg	Echelon I
50 g	0.010 mg	Echelon I
30 g	0.006 mg	Echelon I
20 g	0.005 mg	Echelon I
10 g	0.004 mg	Echelon I
5 g	0.002 mg	Echelon I
3 g	0.002 mg	Echelon I
2 g	0.0015 mg	Echelon I
1 g	0.0015 mg	Echelon I
500 mg	0.0006 mg	Echelon I
300 mg	0.0006 mg	Echelon I
200 mg	0.0006 mg	Echelon I
100 mg	0.0006 mg	Echelon I
50 mg	0.0006 mg	Echelon I
30 mg	0.0006 mg	Echelon I
20 mg	0.0006 mg	Echelon I
10 mg	0.0006 mg	Echelon I
5 mg	0.0006 mg	Echelon I

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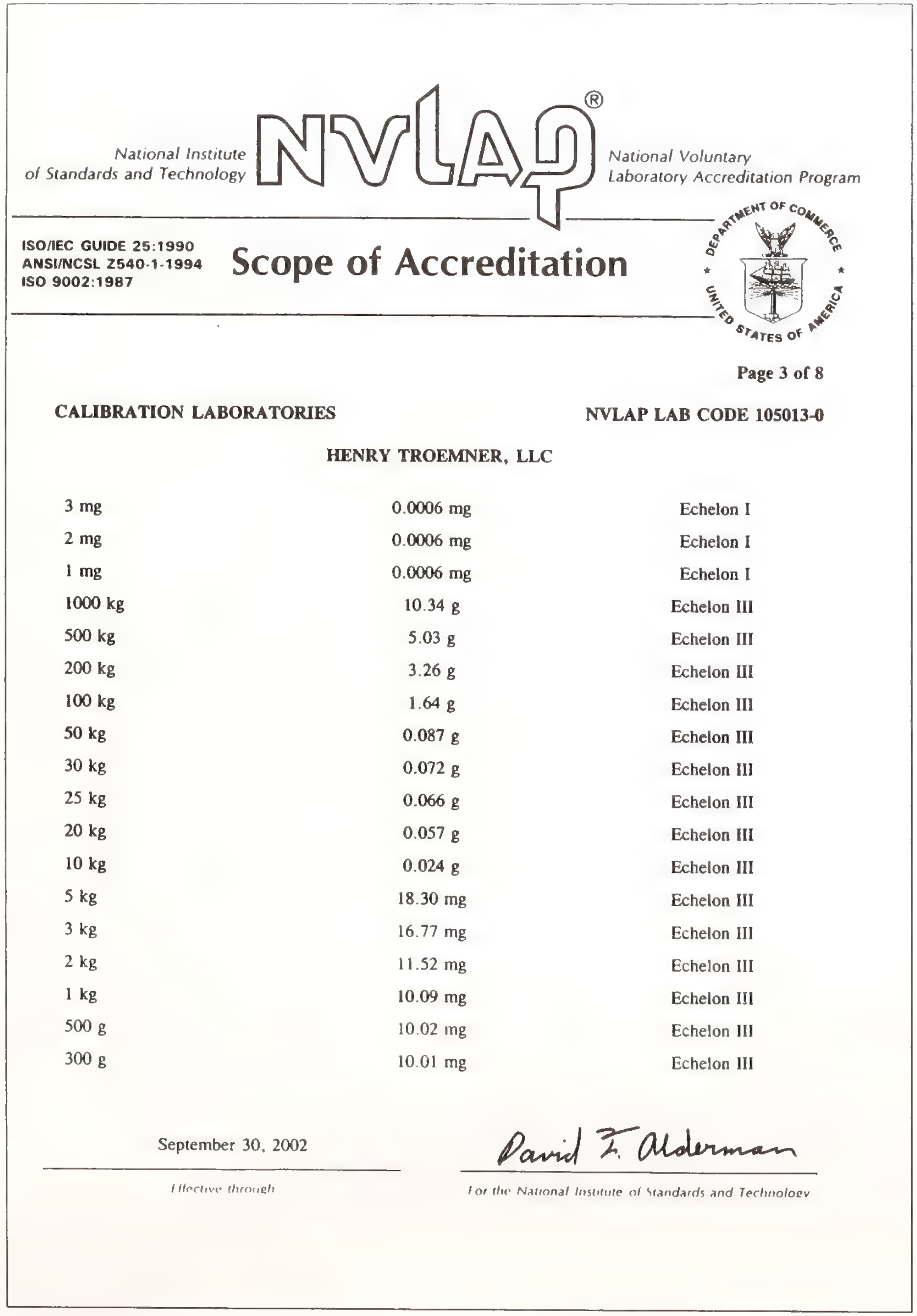

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CALIBRATION LABORATORIES **NVLAP LAB CODE 105013-0**

HENRY TROEMNER, LLC

3 mg	0.0006 mg	Echelon I
2 mg	0.0006 mg	Echelon I
1 mg	0.0006 mg	Echelon I
1000 kg	10.34 g	Echelon III
500 kg	5.03 g	Echelon III
200 kg	3.26 g	Echelon III
100 kg	1.64 g	Echelon III
50 kg	0.087 g	Echelon III
30 kg	0.072 g	Echelon III
25 kg	0.066 g	Echelon III
20 kg	0.057 g	Echelon III
10 kg	0.024 g	Echelon III
5 kg	18.30 mg	Echelon III
3 kg	16.77 mg	Echelon III
2 kg	11.52 mg	Echelon III
1 kg	10.09 mg	Echelon III
500 g	10.02 mg	Echelon III
300 g	10.01 mg	Echelon III

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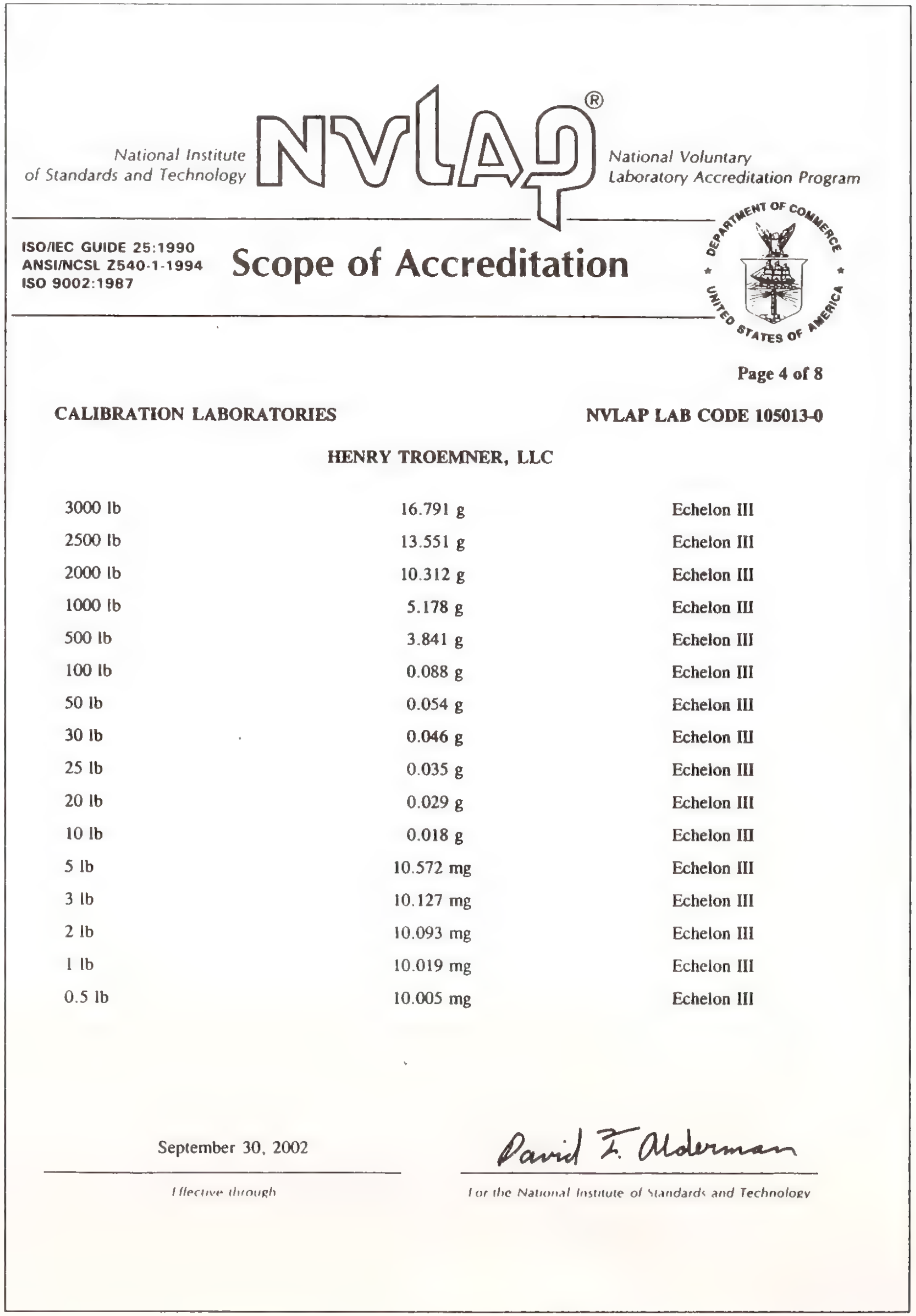

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CALIBRATION LABORATORIES **NVLAP LAB CODE 105013-0**

HENRY TROEMNER, LLC

3000 lb	16.791 g	Echelon III
2500 lb	13.551 g	Echelon III
2000 lb	10.312 g	Echelon III
1000 lb	5.178 g	Echelon III
500 lb	3.841 g	Echelon III
100 lb	0.088 g	Echelon III
50 lb	0.054 g	Echelon III
30 lb	0.046 g	Echelon III
25 lb	0.035 g	Echelon III
20 lb	0.029 g	Echelon III
10 lb	0.018 g	Echelon III
5 lb	10.572 mg	Echelon III
3 lb	10.127 mg	Echelon III
2 lb	10.093 mg	Echelon III
1 lb	10.019 mg	Echelon III
0.5 lb	10.005 mg	Echelon III

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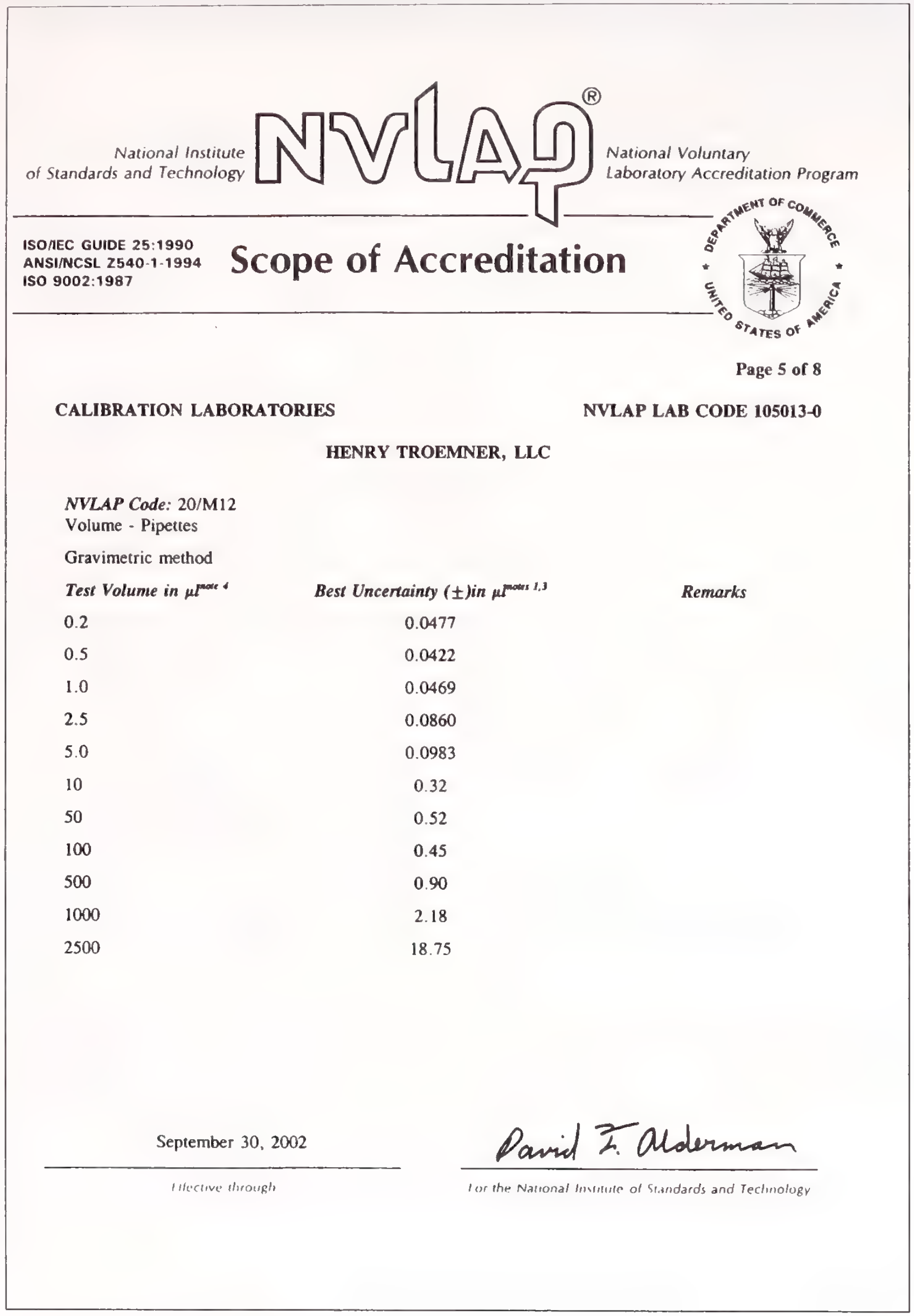

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CALIBRATION LABORATORIES **NVLAP LAB CODE 105013-0**

HENRY TROEMNER, LLC

NVLAP Code: 20/M12
Volume - Pipettes

Gravimetric method

Test Volume in $\mu l^{\text{note 4}}$	*Best Uncertainty* (±)*in* $\mu l^{\text{notes 1,3}}$	*Remarks*
0.2	0.0477	
0.5	0.0422	
1.0	0.0469	
2.5	0.0860	
5.0	0.0983	
10	0.32	
50	0.52	
100	0.45	
500	0.90	
1000	2.18	
2500	18.75	

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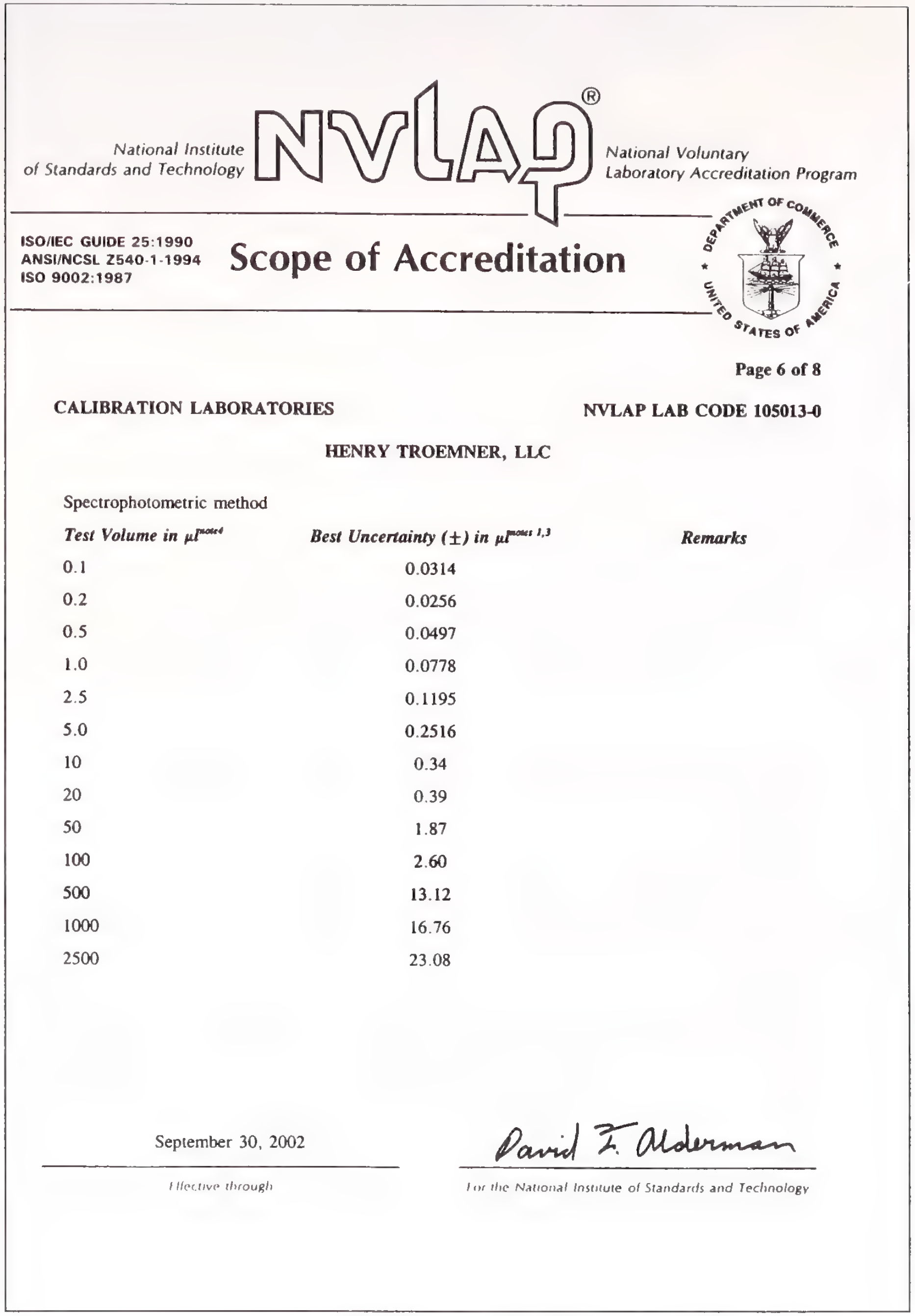

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CALIBRATION LABORATORIES **NVLAP LAB CODE 105013-0**

HENRY TROEMNER, LLC

Spectrophotometric method

Test Volume in μl^{note4}	*Best Uncertainty* (±) *in* $\mu l^{\text{notes 1,3}}$	*Remarks*
0.1	0.0314	
0.2	0.0256	
0.5	0.0497	
1.0	0.0778	
2.5	0.1195	
5.0	0.2516	
10	0.34	
20	0.39	
50	1.87	
100	2.60	
500	13.12	
1000	16.76	
2500	23.08	

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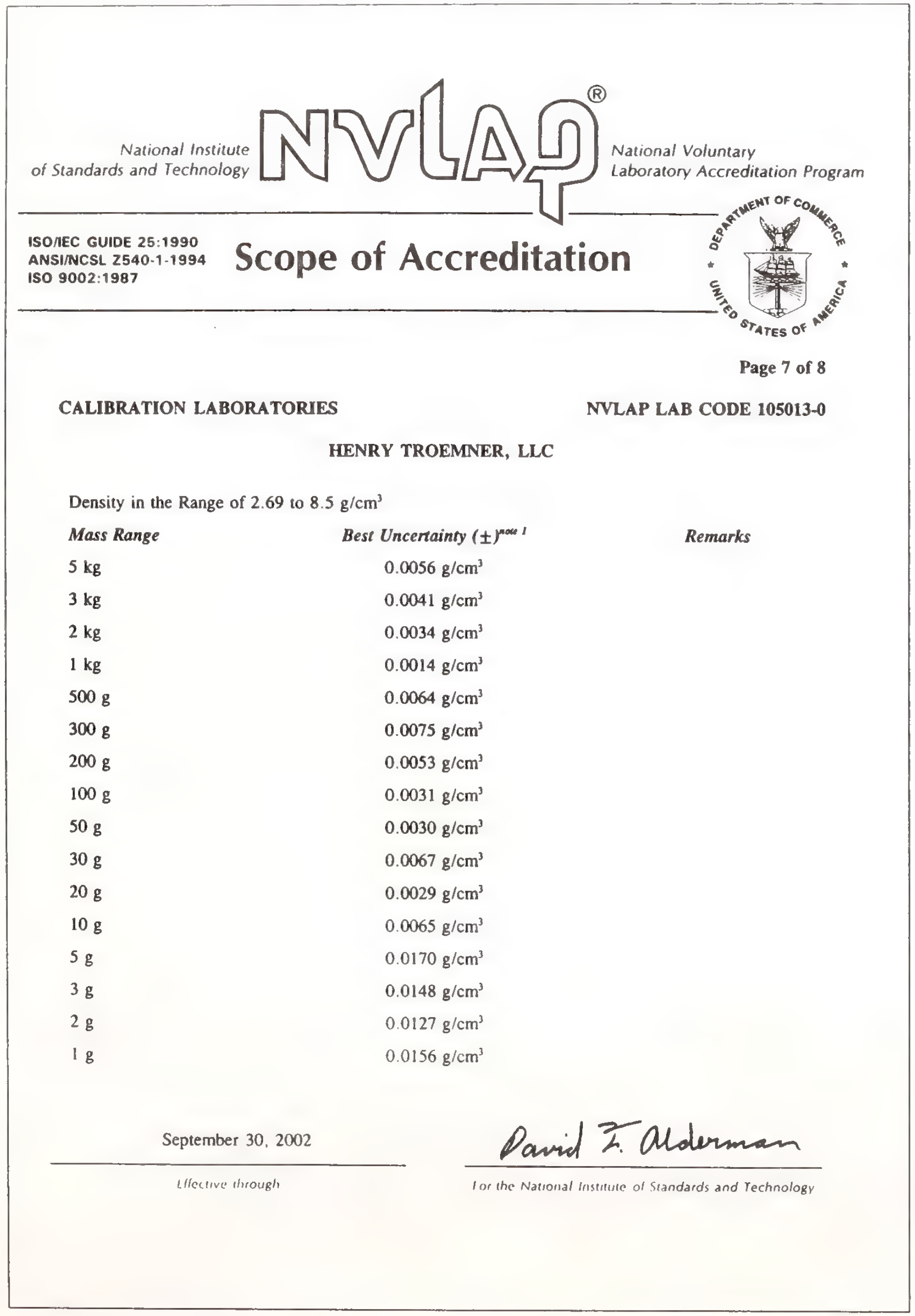

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CALIBRATION LABORATORIES **NVLAP LAB CODE 105013-0**

HENRY TROEMNER, LLC

Density in the Range of 2.69 to 8.5 g/cm^3

Mass Range	*Best Uncertainty* (±)$^{\text{note 1}}$	*Remarks*
5 kg	0.0056 g/cm^3	
3 kg	0.0041 g/cm^3	
2 kg	0.0034 g/cm^3	
1 kg	0.0014 g/cm^3	
500 g	0.0064 g/cm^3	
300 g	0.0075 g/cm^3	
200 g	0.0053 g/cm^3	
100 g	0.0031 g/cm^3	
50 g	0.0030 g/cm^3	
30 g	0.0067 g/cm^3	
20 g	0.0029 g/cm^3	
10 g	0.0065 g/cm^3	
5 g	0.0170 g/cm^3	
3 g	0.0148 g/cm^3	
2 g	0.0127 g/cm^3	
1 g	0.0156 g/cm^3	

September 30, 2002
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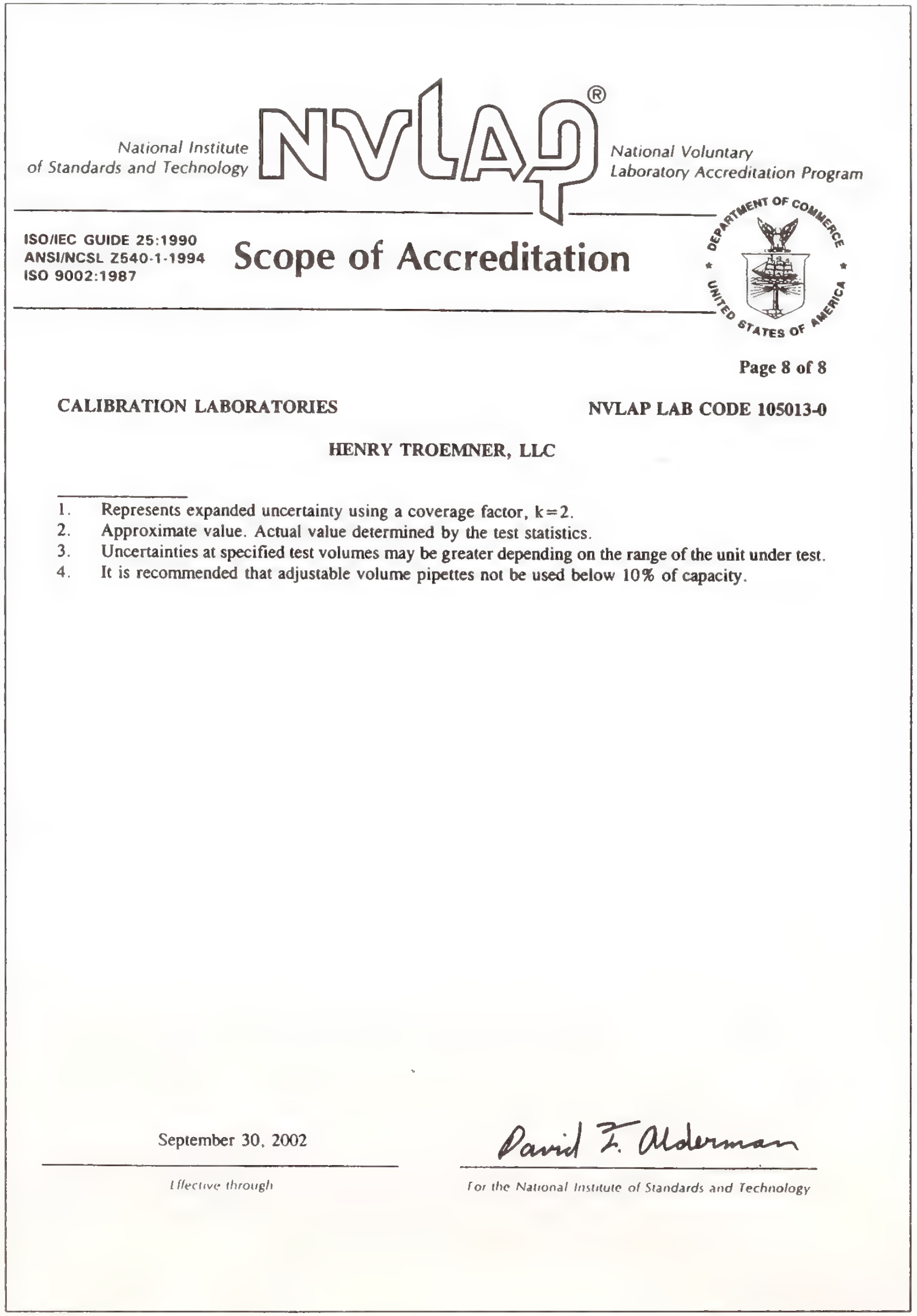
For the National Institute of Standards and Technology



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1. Represents expanded uncertainty using a coverage factor, k=2.
2. Approximate value. Actual value determined by the test statistics.
3. Uncertainties at specified test volumes may be greater depending on the range of the unit under test.
4. It is recommended that adjustable volume pipettes not be used below 10% of capacity.

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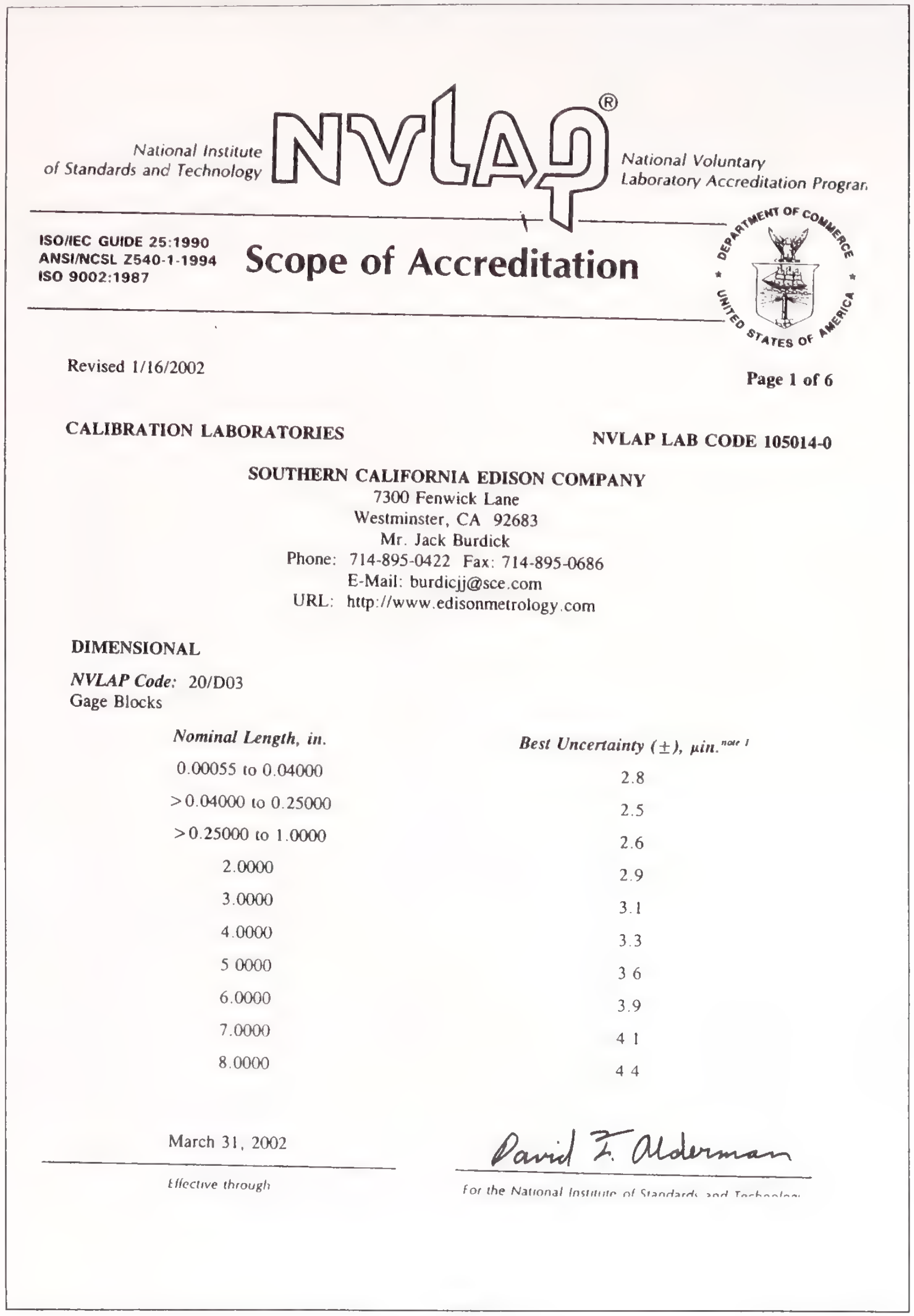

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CALIBRATION LABORATORIES **NVLAP LAB CODE 105014-0**

SOUTHERN CALIFORNIA EDISON COMPANY
7300 Fenwick Lane
Westminster, CA 92683
Mr. Jack Burdick
Phone: 714-895-0422 Fax: 714-895-0686
E-Mail: burdicjj@sce.com
URL: http://www.edisonmetrology.com

DIMENSIONAL

NVLAP Code: 20/D03
Gage Blocks

Nominal Length, in.	*Best Uncertainty (±), μin.*$^{\text{note 1}}$
0.00055 to 0.04000	2.8
>0.04000 to 0.25000	2.5
>0.25000 to 1.0000	2.6
2.0000	2.9
3.0000	3.1
4.0000	3.3
5.0000	3.6
6.0000	3.9
7.0000	4.1
8.0000	4.4

March 31, 2002
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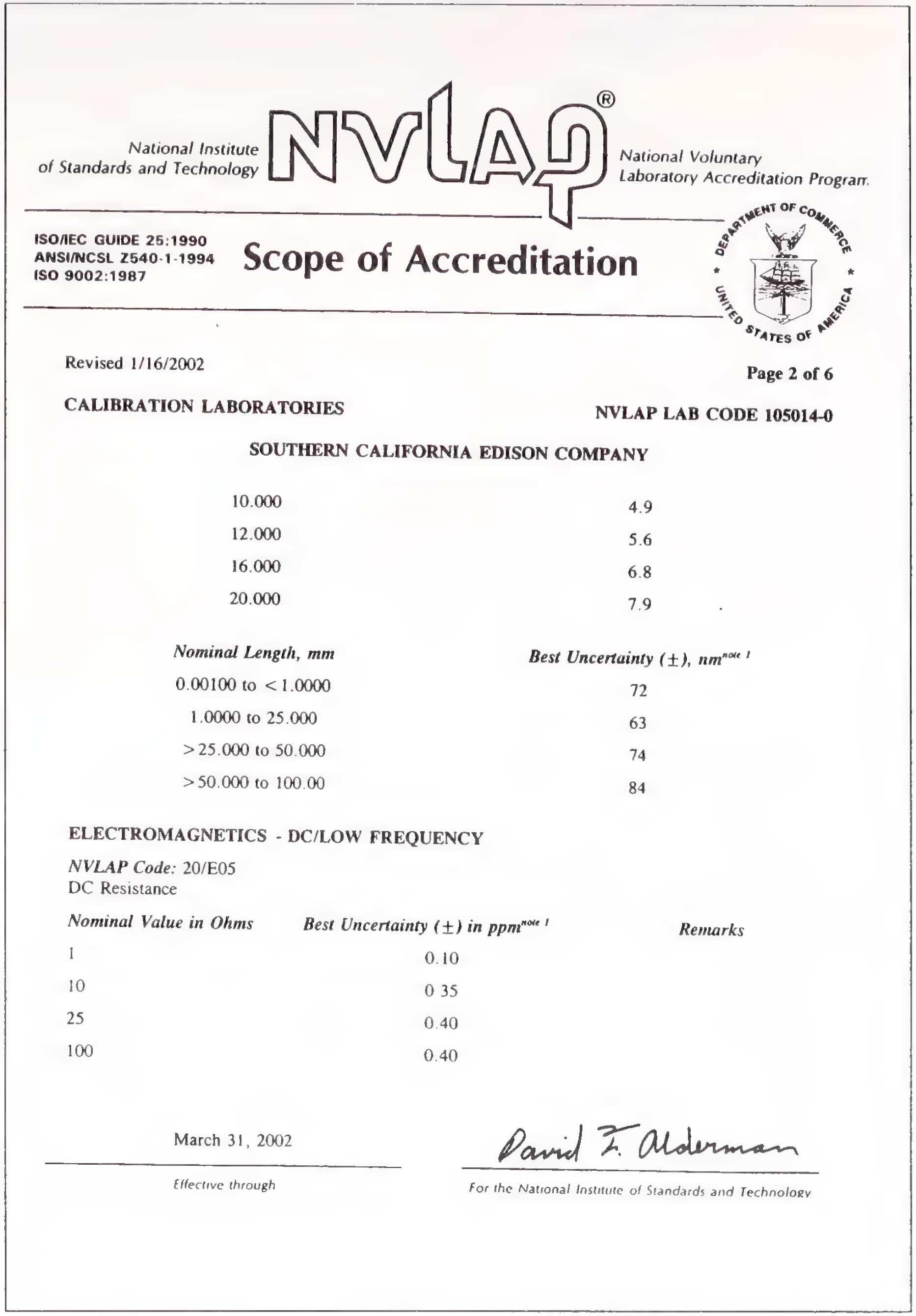

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SOUTHERN CALIFORNIA EDISON COMPANY

10.000	4.9
12.000	5.6
16.000	6.8
20.000	7.9

Nominal Length, mm	*Best Uncertainty (±), nm*$^{\text{note 1}}$
0.00100 to <1.0000	72
1.0000 to 25.000	63
>25.000 to 50.000	74
>50.000 to 100.00	84

ELECTROMAGNETICS - DC/LOW FREQUENCY

NVLAP Code: 20/E05
DC Resistance

Nominal Value in Ohms	*Best Uncertainty (±) in ppm*$^{\text{note 1}}$	*Remarks*
1	0.10	
10	0.35	
25	0.40	
100	0.40	

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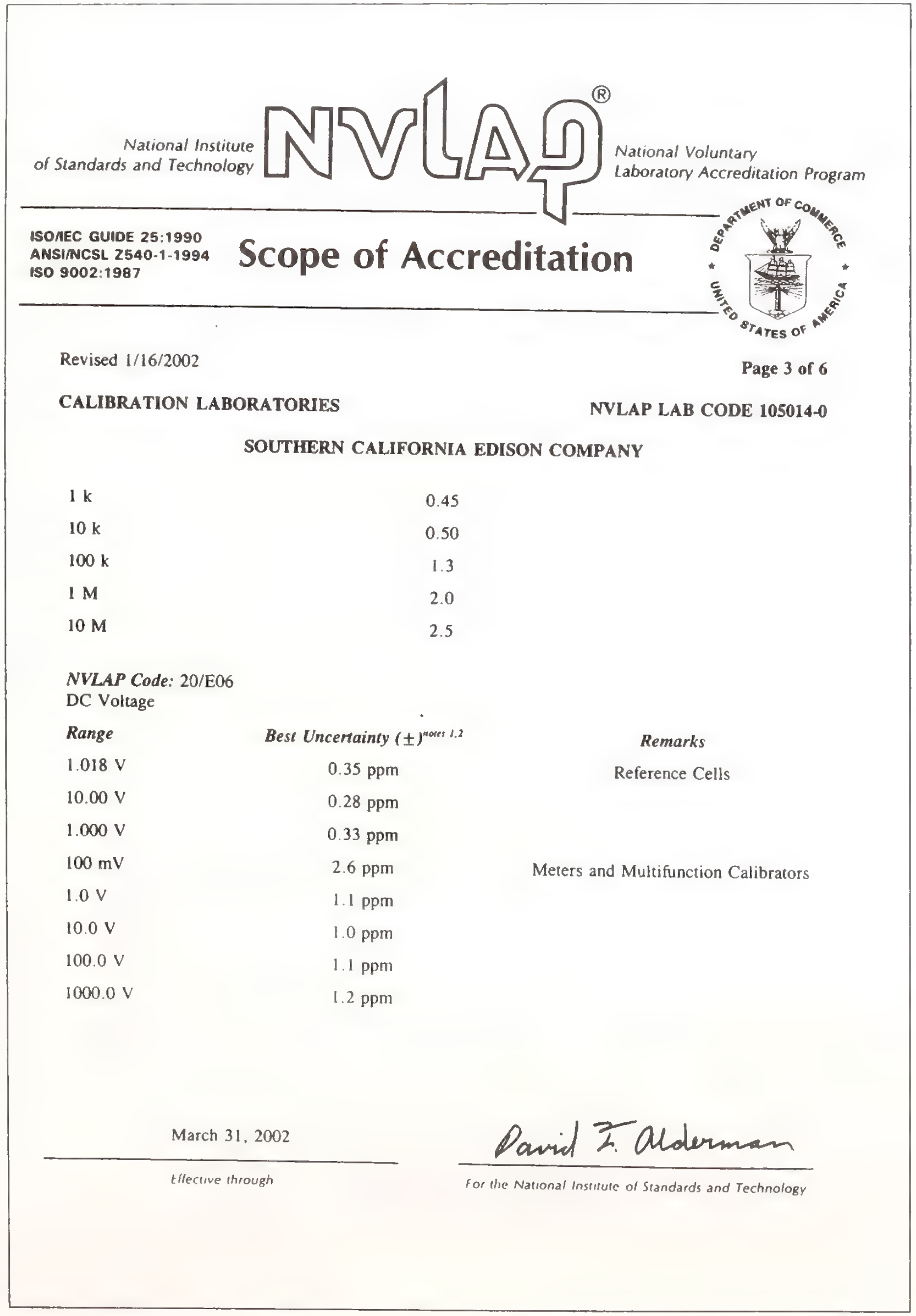

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CALIBRATION LABORATORIES **NVLAP LAB CODE 105014-0**

SOUTHERN CALIFORNIA EDISON COMPANY

1 k	0.45
10 k	0.50
100 k	1.3
1 M	2.0
10 M	2.5

NVLAP Code: 20/E06
DC Voltage

Range	*Best Uncertainty* (±)$^{\text{notes 1,2}}$	*Remarks*
1.018 V	0.35 ppm	Reference Cells
10.00 V	0.28 ppm	
1.000 V	0.33 ppm	
100 mV	2.6 ppm	Meters and Multifunction Calibrators
1.0 V	1.1 ppm	
10.0 V	1.0 ppm	
100.0 V	1.1 ppm	
1000.0 V	1.2 ppm	

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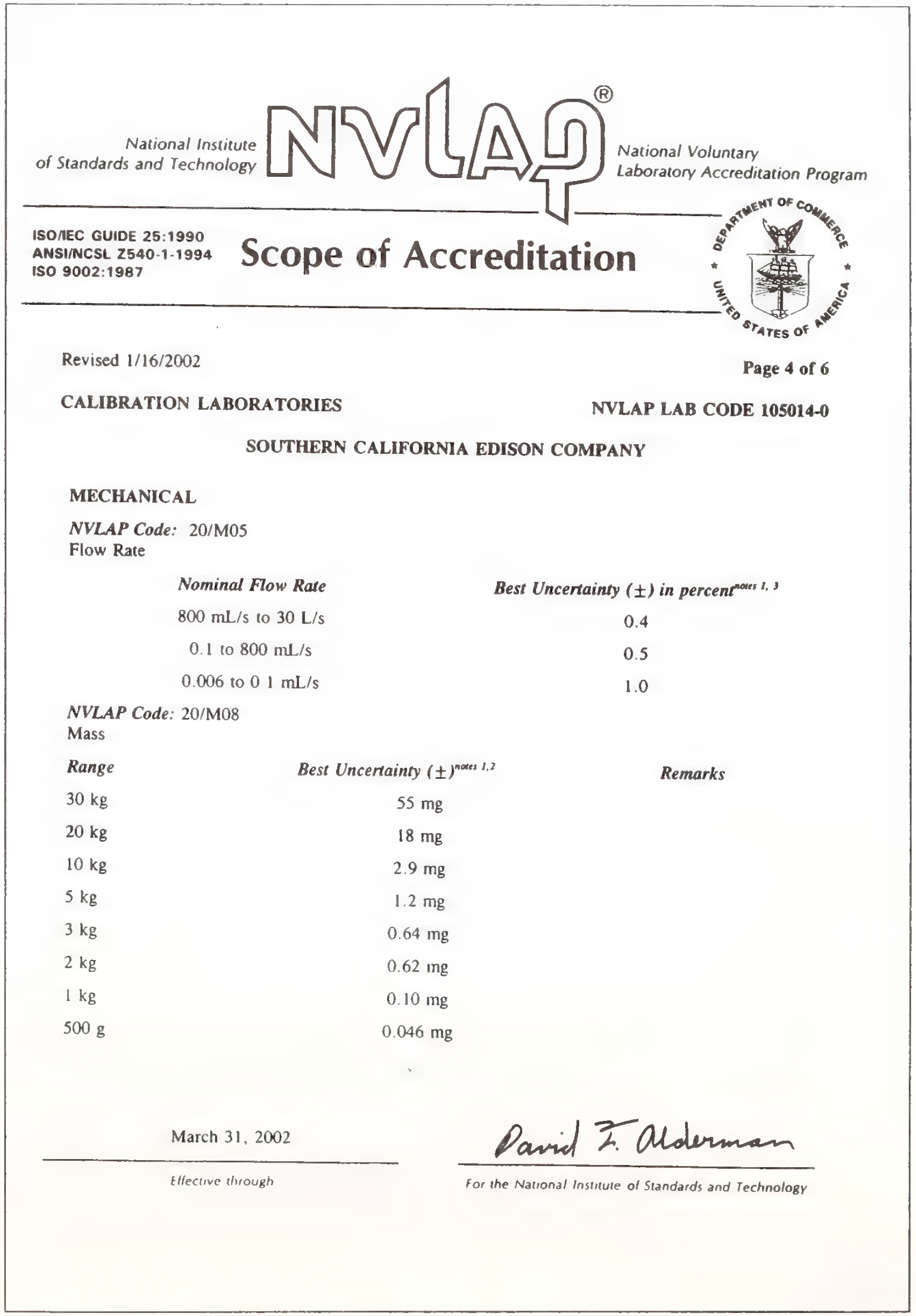

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SOUTHERN CALIFORNIA EDISON COMPANY

MECHANICAL

NVLAP Code: 20/M05
Flow Rate

Nominal Flow Rate	*Best Uncertainty* (±) *in percent*$^{\text{notes 1, 3}}$
800 mL/s to 30 L/s	0.4
0.1 to 800 mL/s	0.5
0.006 to 0 1 mL/s	1.0

NVLAP Code: 20/M08
Mass

Range	*Best Uncertainty* (±)$^{\text{notes 1,2}}$	*Remarks*
30 kg	55 mg	
20 kg	18 mg	
10 kg	2.9 mg	
5 kg	1.2 mg	
3 kg	0.64 mg	
2 kg	0.62 mg	
1 kg	0.10 mg	
500 g	0.046 mg	

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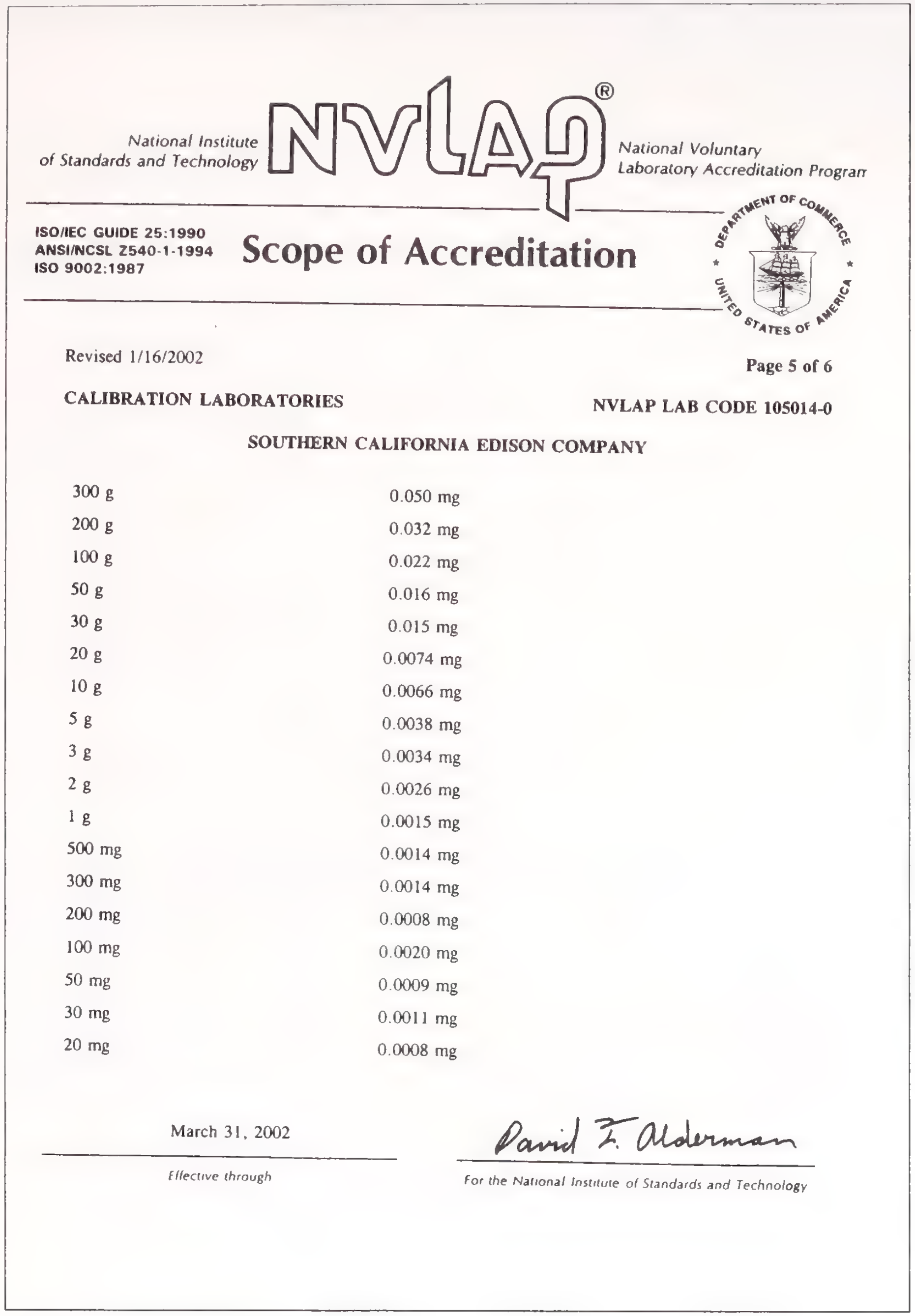

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SOUTHERN CALIFORNIA EDISON COMPANY

300 g	0.050 mg
200 g	0.032 mg
100 g	0.022 mg
50 g	0.016 mg
30 g	0.015 mg
20 g	0.0074 mg
10 g	0.0066 mg
5 g	0.0038 mg
3 g	0.0034 mg
2 g	0.0026 mg
1 g	0.0015 mg
500 mg	0.0014 mg
300 mg	0.0014 mg
200 mg	0.0008 mg
100 mg	0.0020 mg
50 mg	0.0009 mg
30 mg	0.0011 mg
20 mg	0.0008 mg

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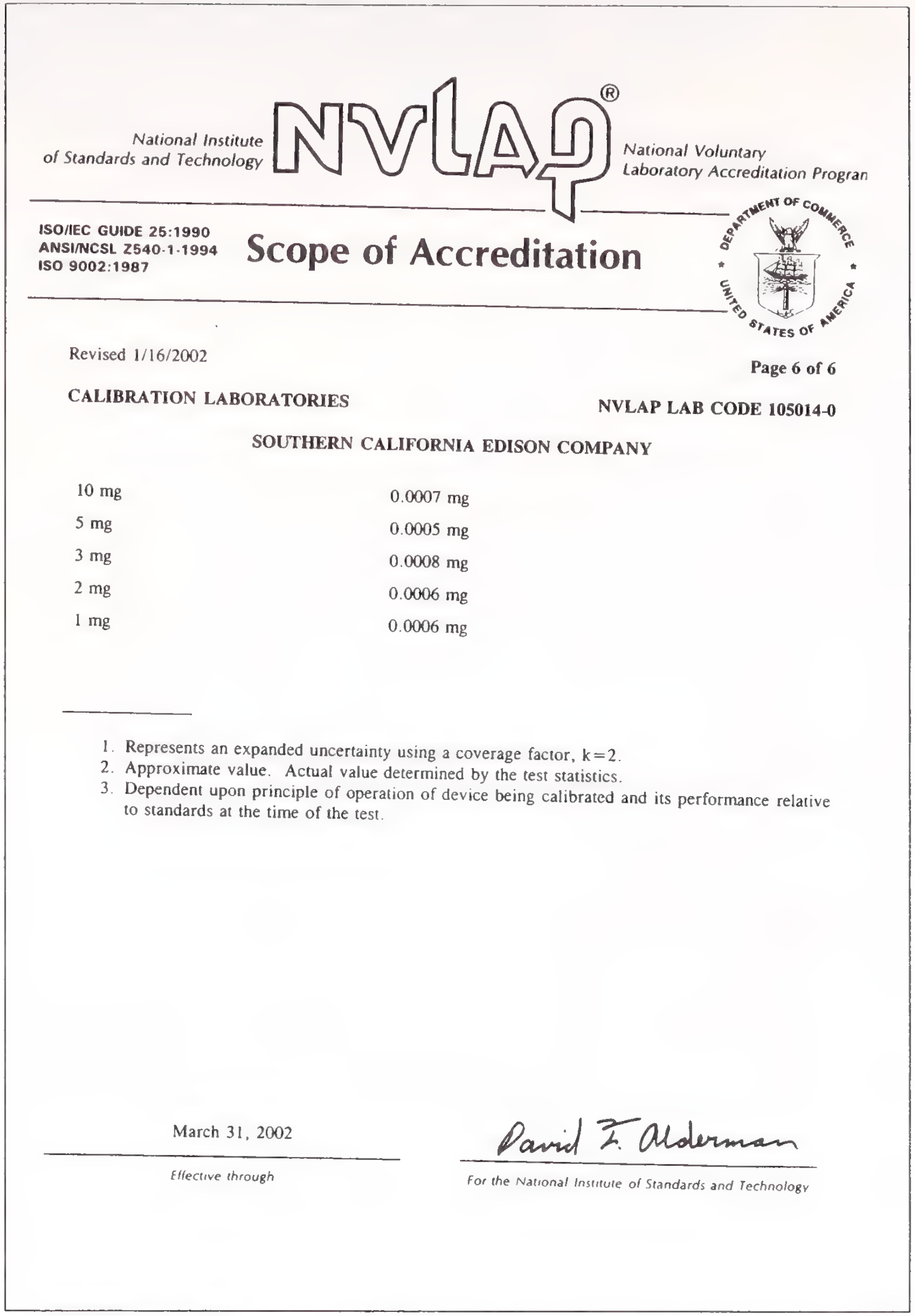

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SOUTHERN CALIFORNIA EDISON COMPANY

10 mg	0.0007 mg
5 mg	0.0005 mg
3 mg	0.0008 mg
2 mg	0.0006 mg
1 mg	0.0006 mg

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1. Represents an expanded uncertainty using a coverage factor, k=2.
2. Approximate value. Actual value determined by the test statistics.
3. Dependent upon principle of operation of device being calibrated and its performance relative to standards at the time of the test.

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CALIBRATION LABORATORIES **NVLAP LAB CODE 105016-0**

FLUKE CORPORATION PRIMARY STANDARDS LABORATORY
6920 Seaway Boulevard, M/S 169G
P.O. Box 9090
Everett, WA 98206-9090
Mr. David Deaver
Phone: 425-446-6434 Fax: 425-446-5649
E-Mail: david.deaver@fluke.com
URL: http://www.fluke.com/service/acc_usa.asp

ELECTROMAGNETICS - DC/LOW FREQUENCY

NVLAP Code: 20/E01
AC/DC Difference for Low Frequency Voltage

Best Uncertainty (±) in ppm$^{\text{note 1}}$
Frequency in Hertz

Range	*Level*	*10*	*20*	*40*	*100*	*1k*	*10k*	*20k*	*50k*	*100k*	*300k*	*500k*	*800k*	*1M*
22 mV	2 mV	320	890	610	900	320	760	1050	330	1110	1230	2020	2520	2900
22 mV	6 mV	220	260	130	120	190	150	130	310	510	700	900	330	370
22 mV	10 mV	90	220	70	160	230	110	120	190	330	220	630	350	380
22 mV	20 mV	80	65	60	60	60	60	60	160	260	350	500	330	360
220 mV	20 mV	110	110	76	67	60	60	66	140	240	280	400	450	580
220 mV	60 mV	75	80	57	45	32	33	38	60	120	230	280	330	370
220 mV	100 mV	35	70	17	41	32	18	22	40	70	140	150	210	190

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FLUKE CORPORATION PRIMARY STANDARDS LABORATORY

220 mV	200 mV	35	25	17	17	17	17	17	28	60	100	110	190	190
700 mV	200 mV	35	55	23	30	27	17	23	23	60	110	140	210	190
700 mV	600 mV	20	68	17	7	16	6	7	10	10	80	80	80	80
2.2 V	0.6 V	20	43	24	10	8	10	9	18	10	100	100	100	80
2.2 V	1 V	120	35	14	8	11	11	6	25	10	80	100	100	80
2.2 V	2 V	20	16	21	7	6	6	6	16	10	95	100	80	80
7 V	2 V	25	37	26	18	14	14	14	26	12	100	110	100	100
7 V	3 V	85	36	25	17	15	15	16	40	43	95	100	100	100
7 V	6 V	25	17	15	8	6	7	7	22	15	100	100	80	80
22 V	6 V	115	35	27	8	9	18	15	25	15	80	80	130	130
22 V	10 V	20	42	13	8	7	7	8	10	15	80	100	100	100
22 V	20 V	20	20	16	8	7	7	7	10	15	100	110	80	80
70 V	20 V	30	41	24	19	12	10	16	35	50	130			
70 V	30 V	80	36	24	18	19	17	22	40	56	100			
70 V	60 V	25	20	17	10	10	13	10	40	20	80			
220 V	60 V	120	40	19	17	17	18	30	40	50	120			
220 V	100 V	140	45	19	12	10	10	10	40	20				
220 V	200 V	25	25	15	14	11	11	11	40	25				

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FLUKE CORPORATION PRIMARY STANDARDS LABORATORY

1000 V	200 V	160	45	37	18	15	18	20	20	35
1000 V	600 V	180	55	30	20	15	15	15	23	45
1000 V	1000 V	55	25	20	19	18	18	19	26	50

NVLAP Code: 20/E01
AC/DC Difference for High Frequency Thermal Converters

Best Uncertainty (±) in Percent$^{\text{note 1}}$
Frequency in Hertz

Range	*2 M*	*10 M*	*20 M*	*30 M*	*50 M*	*100 M*
0.5 V		0.1	0.2	0.2	0.5	1.0
1 V		0.1	0.2	0.2	0.5	1.0
2 V		0.08	0.16	0.16	0.4	0.8
3 V	0.08	0.1	0.16	0.2	0.5	1.0
5 V		0.1	0.2	0.2	0.5	1.0
10 V		0.1	0.2	0.2	0.5	1.0
20 V		0.1	0.15	0.2	0.5	1.0
30 V		0.08	0.16	0.16	0.4	0.8
50 V		0.08	0.16	0.16	0.4	0.8

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FLUKE CORPORATION PRIMARY STANDARDS LABORATORY

NVLAP Code: 20/E01
AC/DC Difference for Low Frequency Thermal Current Converters and Shunts

Best Uncertainty (±) in ppm$^{\text{note 1}}$
Frequency in Hertz

Range	*10*	*20*	*40*	*400*	*1 k*	*5 k*	*10 k*	*20 k*	*50 k*	*100 k*
10 mA	200	80	80	80	80	80	80	80	120	200
20 mA	200	80	50	80	50	80	80	80	120	200
30 mA	200		80	80	80	80	80	80	120	200
50 mA				80				80	120	200
0.1 A	200	80	80	80	80	80	80	80	120	200
0.2 A	200	80	50	80	50	80	80	80	120	200
0.3 A	200		80	80	80	80	80	80	120	200
0.5 A				80				80	120	200
1.0 A	200		80	80	80	80	80	80	120	200
2.0 A	200	80	80	80	80	80	80	80	120	200
3.0 A	200		80	80	80	80	80	80	120	200
5.0 A				80				80	120	200
10.0 A	200	140	80	80	80	110	110	120	200	

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FLUKE CORPORATION PRIMARY STANDARDS LABORATORY

20.0 A		110			110	200	

NVLAP Code: 20/E02
AC Current

For Calibrators or DMMs

Best Uncertainty (±) in ppm$^{note\ 1}$
Frequency in Hertz

Current	*10*	*20*	*40*	*400*	*1 k*	*5 k*	*10 k*
19 μA	250	200	200	200	200	250	250
100 μA	160	90	70	70	70	150	200
190 μA	150	85	57	60	55	150	200
1 mA	150	80	50	50	50	80	100
1.9 mA	150	80	50	50	41	70	90
10 mA	260	90	85	85	85	85	100
19 mA	260	85	51	85	51	85	100
100 mA	260	90	85	85	85	85	100
190 mA	260	85	51	85	51	85	100
1.0 A			85	85	85	100	150

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FLUKE CORPORATION PRIMARY STANDARDS LABORATORY

1.9 A	85	85	85	100	150
10 A	85	115	85	120	150

NVLAP Code: 20/E02
AC Current

AC/DC Difference of Y5020 Shunt

Best Uncertainty (±) in ppm$^{note\ 1}$
Frequency in Hertz

Current	*50*	*100*	*300*	*1 k*	*3 k*	*4 k*	*5 k*
10 A	70	70	70	70	150	150	150

NVLAP Code: 20/E02
AC Current

5500A Console

Best Uncertainty (±) in ppm$^{note\ 1}$
Frequency in Hertz

Range	*10*	*45*	*65*	*500*	*1 k*	*5 k*	*10k*
33 μA					180		600

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FLUKE CORPORATION PRIMARY STANDARDS LABORATORY

190 μA		70			80		470
329 μA	80	60			80	150	330
330 μA					160	180	
1.9 mA					60		100
3.29 mA	80	60			60	80	90
3.3 mA					140	150	
19 mA					60		90
32.9 mA	130	65			65	80	90
33 mA					85	90	
190 mA					60		90
329 mA	130	65			65	80	90
330 mA					85	100	
2.19 A	130	70			70	100	
2.2 A				100	100		
11 A		80	80	80	80		

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FLUKE CORPORATION PRIMARY STANDARDS LABORATORY

NVLAP Code: 20/E02
AC Current

At Factory Annex - Multifunction Calibrators Similar to Fluke 5720A

Best Uncertainty (±) in ppm$^{note\ 1}$
Frequency in Hertz

Range	*40*	*1 k*	*10 k*
19 μA		210	1050
190 μA	53	53	260
1.9 mA		46	260
19 mA		53	260
190 mA	43	53	260
1.9 A	90	90	1000

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FLUKE CORPORATION PRIMARY STANDARDS LABORATORY

NVLAP Code: 20/E02
AC Current

At Factory Annex - Multiproduct Calibrators Similar to Fluke 5500A

Best Uncertainty (±) in ppm[note 1]
Frequency in Hertz

Range	*10*	*45*	*65*	*500*	*1 k*	*5 k*	*10k*
33 µA					1400		2200
190 µA		270			360		1600
329 µA	380	220			270	560	1600
330 µA					270	390	
1.9 mA					170		750
3.29 mA	320	140			140	260	730
3.3 mA					260	390	
19 mA					150		750
32.9 mA	350	140			140	260	740
33 mA					260	390	

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FLUKE CORPORATION PRIMARY STANDARDS LABORATORY

190 mA					170		750
329 mA	350	140			140	250	740
330 mA					270	1300	
2.19 A	410	150			210	1200	
2.2 A				300	550		
11 A	110		120	160	430		

NVLAP Code: 20/E02
AC Current

5520A Console

Best Uncertainty (±) in ppm[note 1]
Frequency in Hertz

Range	*10*	*45*	*65*	*500*	*1 k*	*5 k*	*10 k*	*30 k*
33 µA					130		220	400
190 µA		60			60		160	350
329 µA	80	60			60	100	120	250
330 µA					90	150		300
1.9 mA					50		85	140

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3.29 mA	70	55			55	75	85	140
3.3 mA					70	100		150
19 mA					55		70	150
32.9 mA	115	62			62	65	70	150
33 mA					85	90		175
190 mA					55		70	150
329 mA	125	62			62	65	70	150
330 mA					90	100	150	
1.09 A	125	73			73	150	500	
2.99 A	125	72			72	150	500	
3.3 A				150	150	1100		
11 A		80	80	80	80	200		
20 A		100	100	100	130	200		

AC Current Factory Annex 5520A Test Console

Frequency in Hertz

Range	*10*	*45*	*65*	*500*	*1 k*	*5 k*	*10 k*	*30 k*
33 μA					300		700	1300

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CALIBRATION LABORATORIES **NVLAP LAB CODE 105016-0**

FLUKE CORPORATION PRIMARY STANDARDS LABORATORY

190 μA		200			200		600	800
329 μA	200	140			140	200	400	700
330 μA					180	300		600
1.9 mA					180		300	300
3.29 mA	200	140			140	200	200	300
3.3 mA					180	200		400
19 mA					150		200	300
32.9 mA	200	130			130	140	140	200
33 mA					200	200		300
190 mA					160		200	300
329 mA	200	140			140	140	140	300
330 mA					180	500	1400	
1.09 A	140	100			100	200	1000	
2.99 A	140	100			100	220	900	
3.3 A				200	140	2700		
11 A		140	140	140	140	800		
20 A		140	140	140	200	800		

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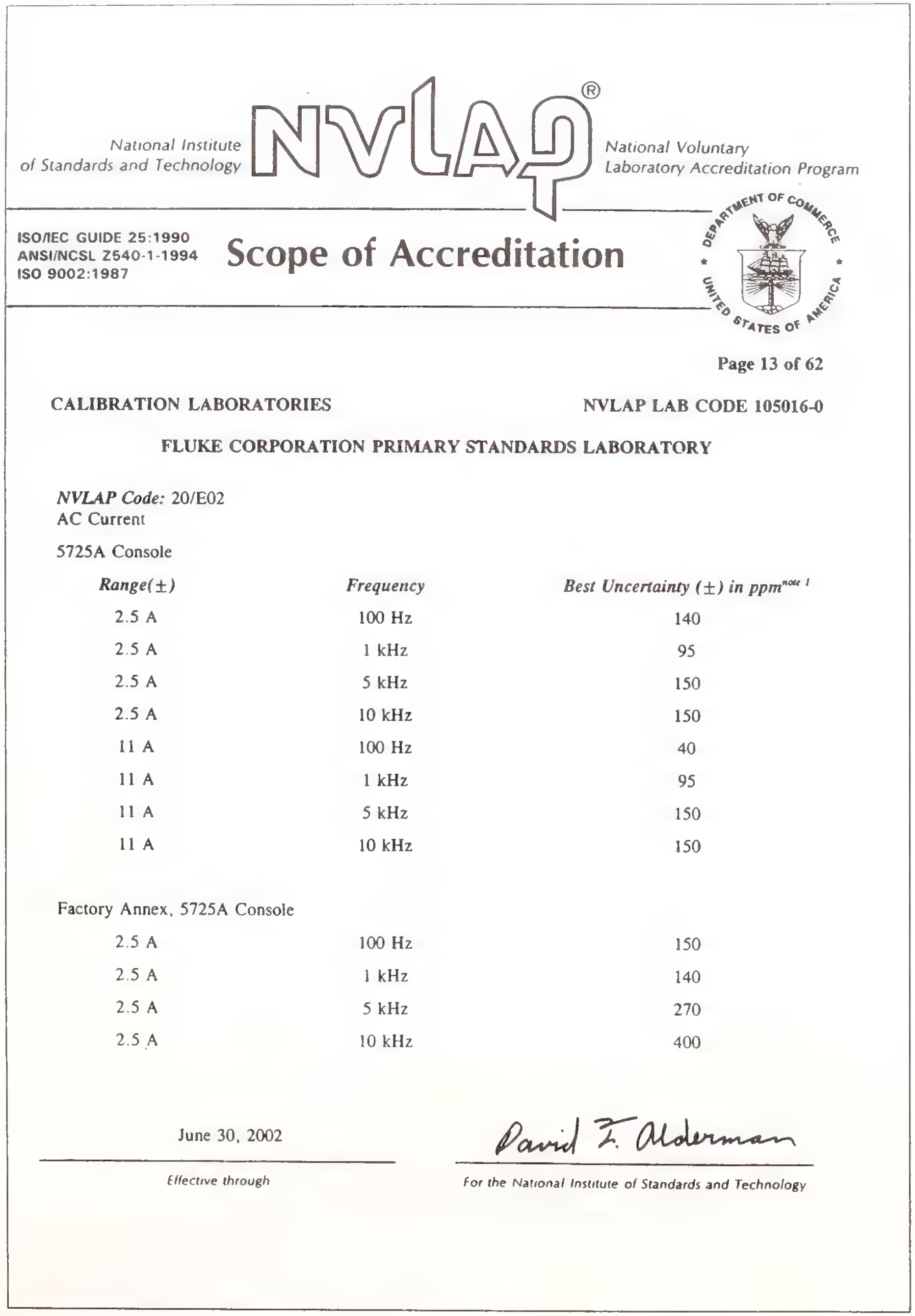

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FLUKE CORPORATION PRIMARY STANDARDS LABORATORY

NVLAP Code: 20/E02
AC Current

5725A Console

Range(±)	*Frequency*	*Best Uncertainty (±) in ppm*$^{\text{note 1}}$
2.5 A	100 Hz	140
2.5 A	1 kHz	95
2.5 A	5 kHz	150
2.5 A	10 kHz	150
11 A	100 Hz	40
11 A	1 kHz	95
11 A	5 kHz	150
11 A	10 kHz	150

Factory Annex, 5725A Console

2.5 A	100 Hz	150
2.5 A	1 kHz	140
2.5 A	5 kHz	270
2.5 A	10 kHz	400

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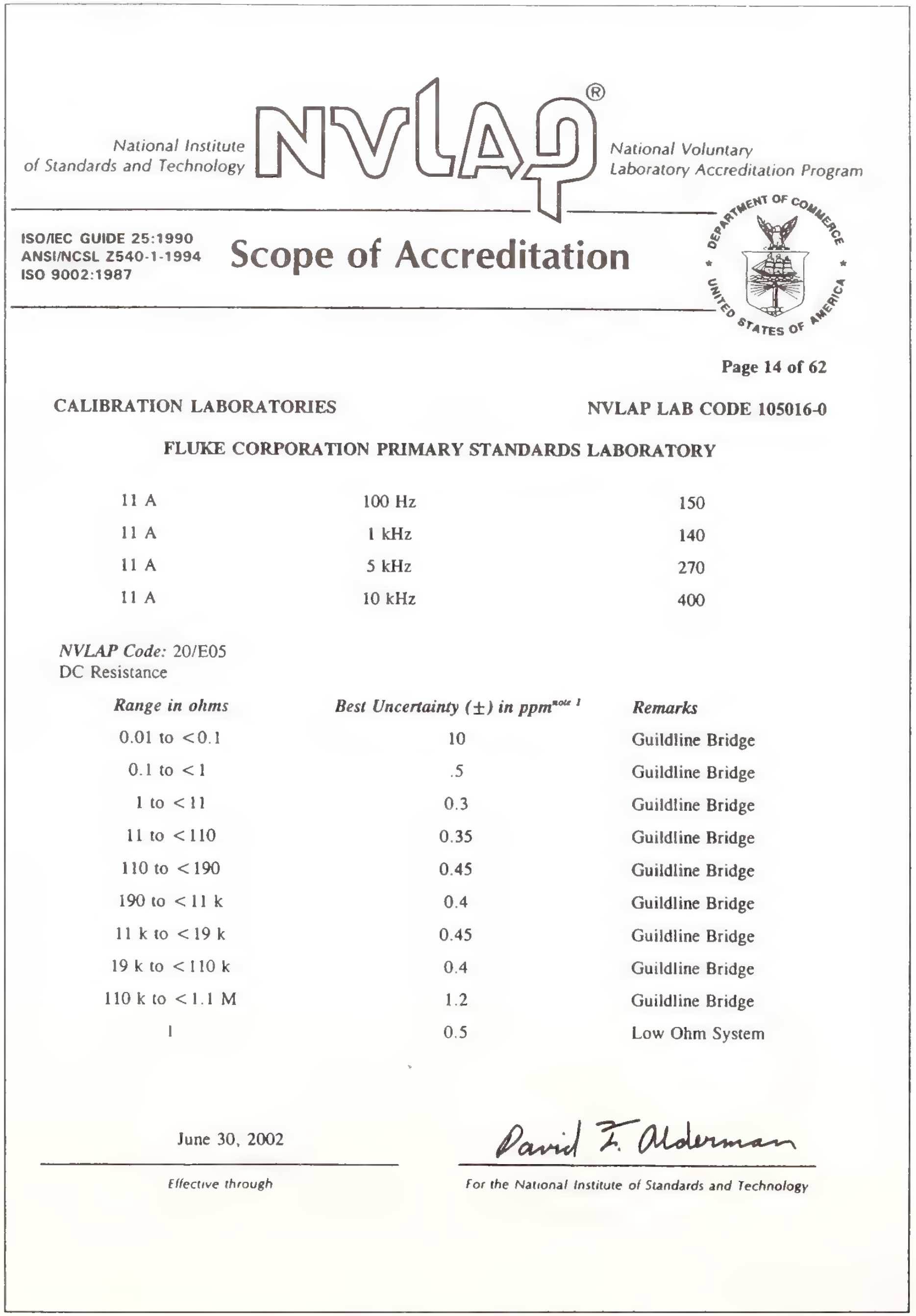

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FLUKE CORPORATION PRIMARY STANDARDS LABORATORY

11 A	100 Hz	150
11 A	1 kHz	140
11 A	5 kHz	270
11 A	10 kHz	400

NVLAP Code: 20/E05
DC Resistance

Range in ohms	*Best Uncertainty (±) in ppm*$^{\text{note 1}}$	*Remarks*
0.01 to <0.1	10	Guildline Bridge
0.1 to <1	.5	Guildline Bridge
1 to <11	0.3	Guildline Bridge
11 to <110	0.35	Guildline Bridge
110 to <190	0.45	Guildline Bridge
190 to <11 k	0.4	Guildline Bridge
11 k to <19 k	0.45	Guildline Bridge
19 k to <110 k	0.4	Guildline Bridge
110 k to <1.1 M	1.2	Guildline Bridge
1	0.5	Low Ohm System

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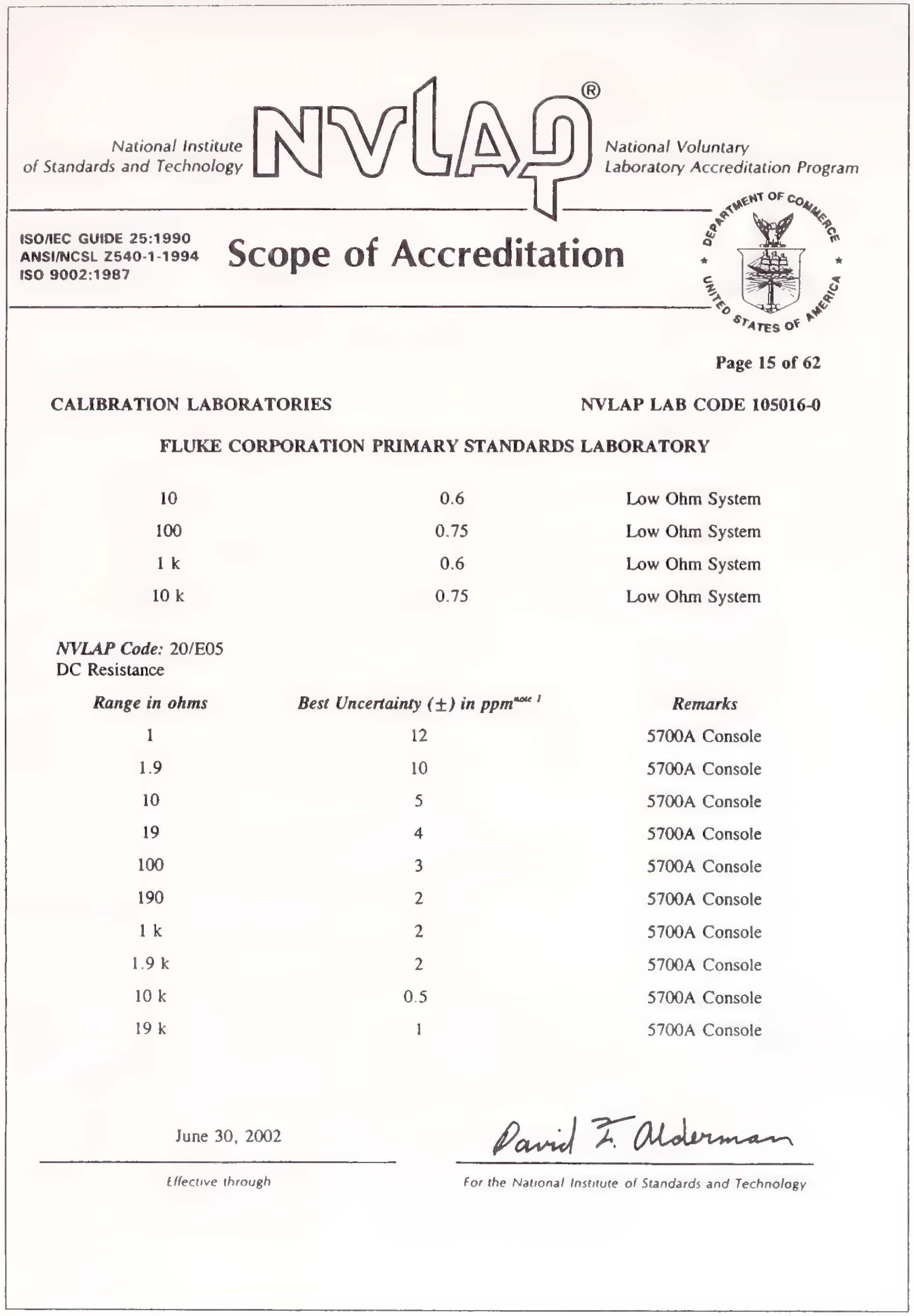

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FLUKE CORPORATION PRIMARY STANDARDS LABORATORY

10	0.6	Low Ohm System
100	0.75	Low Ohm System
1 k	0.6	Low Ohm System
10 k	0.75	Low Ohm System

NVLAP Code: 20/E05
DC Resistance

Range in ohms	*Best Uncertainty (±) in ppm*$^{\text{note 1}}$	*Remarks*
1	12	5700A Console
1.9	10	5700A Console
10	5	5700A Console
19	4	5700A Console
100	3	5700A Console
190	2	5700A Console
1 k	2	5700A Console
1.9 k	2	5700A Console
10 k	0.5	5700A Console
19 k	1	5700A Console

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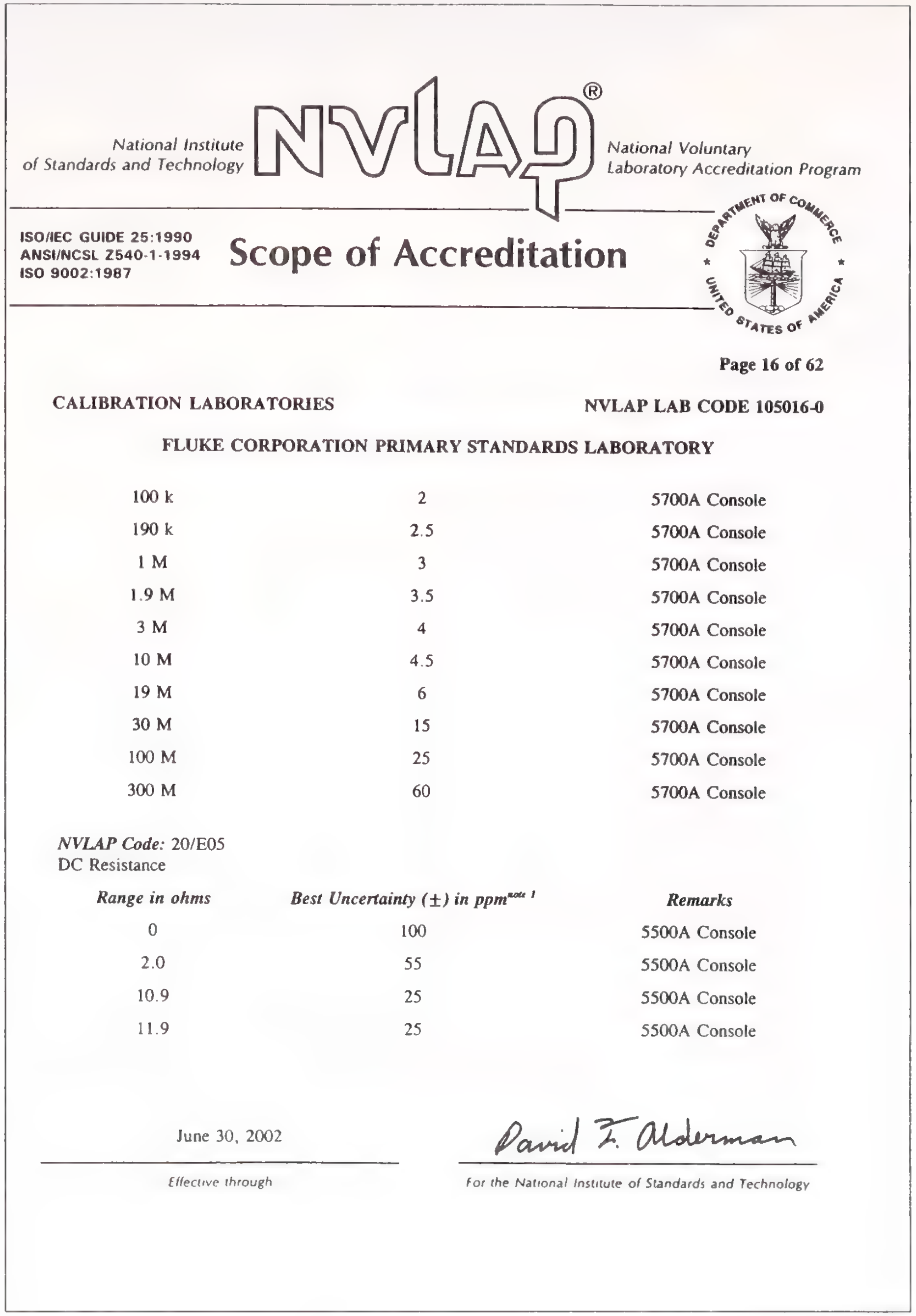

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FLUKE CORPORATION PRIMARY STANDARDS LABORATORY

100 k	2	5700A Console
190 k	2.5	5700A Console
1 M	3	5700A Console
1.9 M	3.5	5700A Console
3 M	4	5700A Console
10 M	4.5	5700A Console
19 M	6	5700A Console
30 M	15	5700A Console
100 M	25	5700A Console
300 M	60	5700A Console

NVLAP Code: 20/E05
DC Resistance

Range in ohms	*Best Uncertainty (±) in ppm*$^{\text{note 1}}$	*Remarks*
0	100	5500A Console
2.0	55	5500A Console
10.9	25	5500A Console
11.9	25	5500A Console

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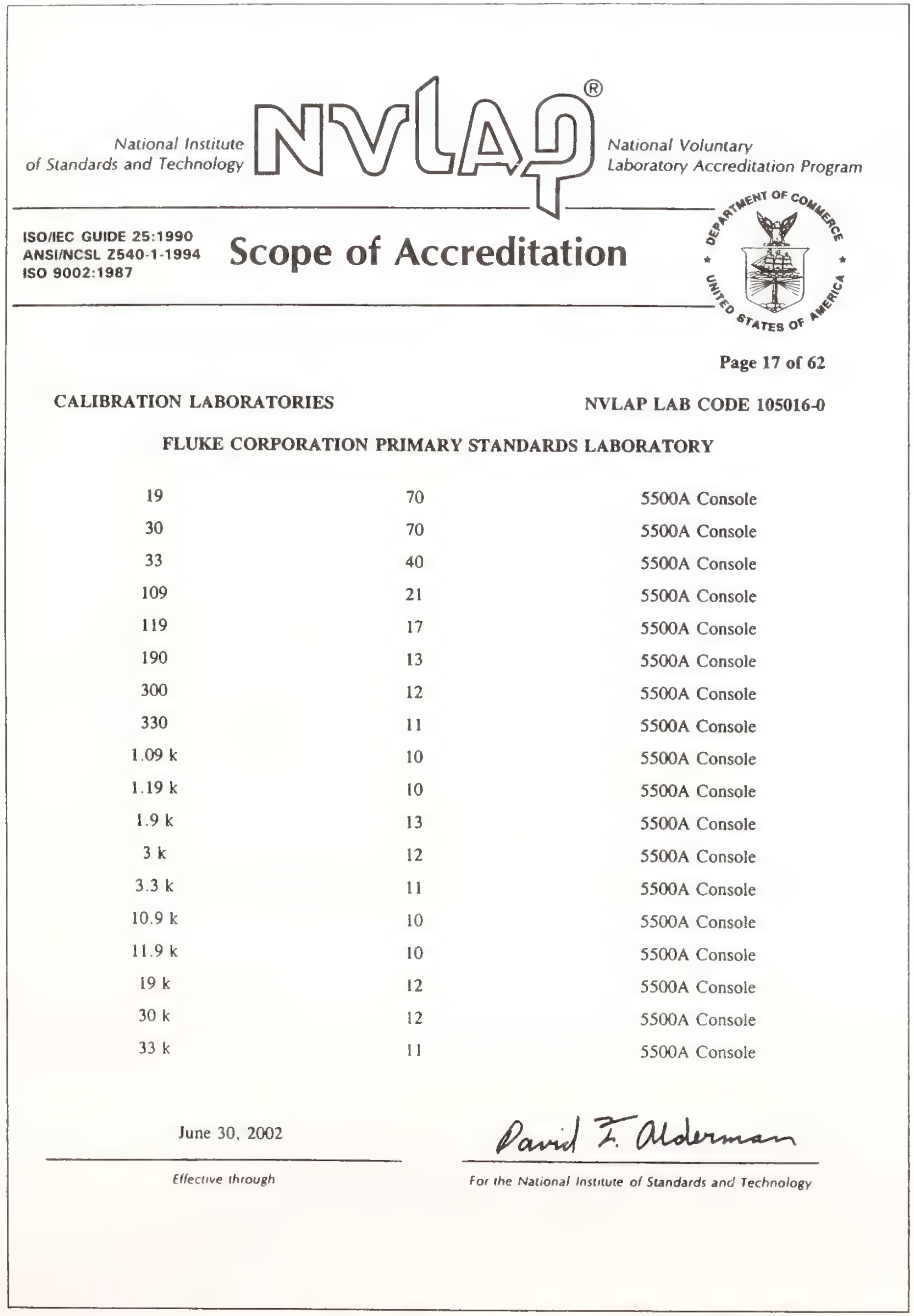

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FLUKE CORPORATION PRIMARY STANDARDS LABORATORY

19	70	5500A Console
30	70	5500A Console
33	40	5500A Console
109	21	5500A Console
119	17	5500A Console
190	13	5500A Console
300	12	5500A Console
330	11	5500A Console
1.09 k	10	5500A Console
1.19 k	10	5500A Console
1.9 k	13	5500A Console
3 k	12	5500A Console
3.3 k	11	5500A Console
10.9 k	10	5500A Console
11.9 k	10	5500A Console
19 k	12	5500A Console
30 k	12	5500A Console
33 k	11	5500A Console

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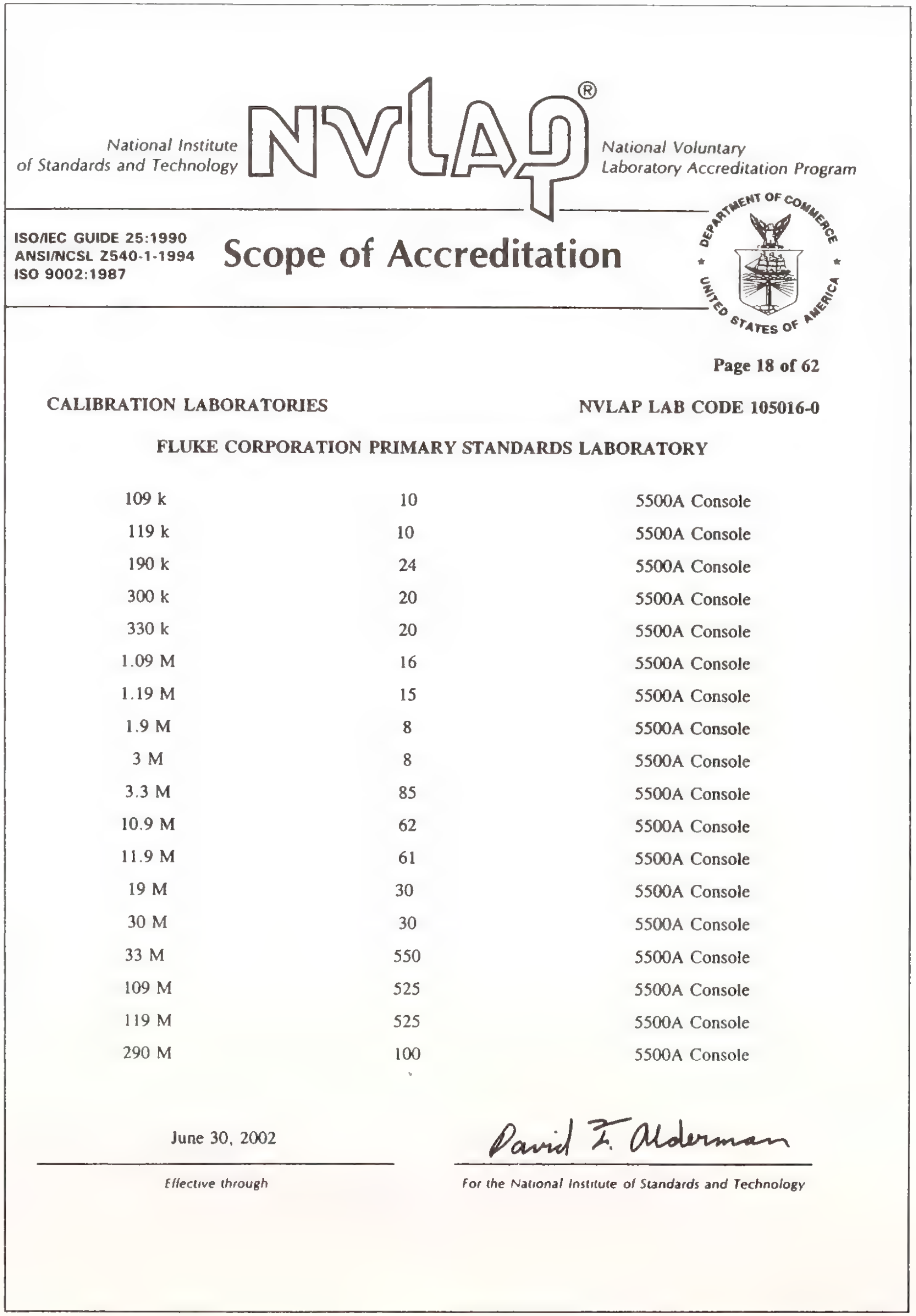

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FLUKE CORPORATION PRIMARY STANDARDS LABORATORY

109 k	10	5500A Console
119 k	10	5500A Console
190 k	24	5500A Console
300 k	20	5500A Console
330 k	20	5500A Console
1.09 M	16	5500A Console
1.19 M	15	5500A Console
1.9 M	8	5500A Console
3 M	8	5500A Console
3.3 M	85	5500A Console
10.9 M	62	5500A Console
11.9 M	61	5500A Console
19 M	30	5500A Console
30 M	30	5500A Console
33 M	550	5500A Console
109 M	525	5500A Console
119 M	525	5500A Console
290 M	100	5500A Console

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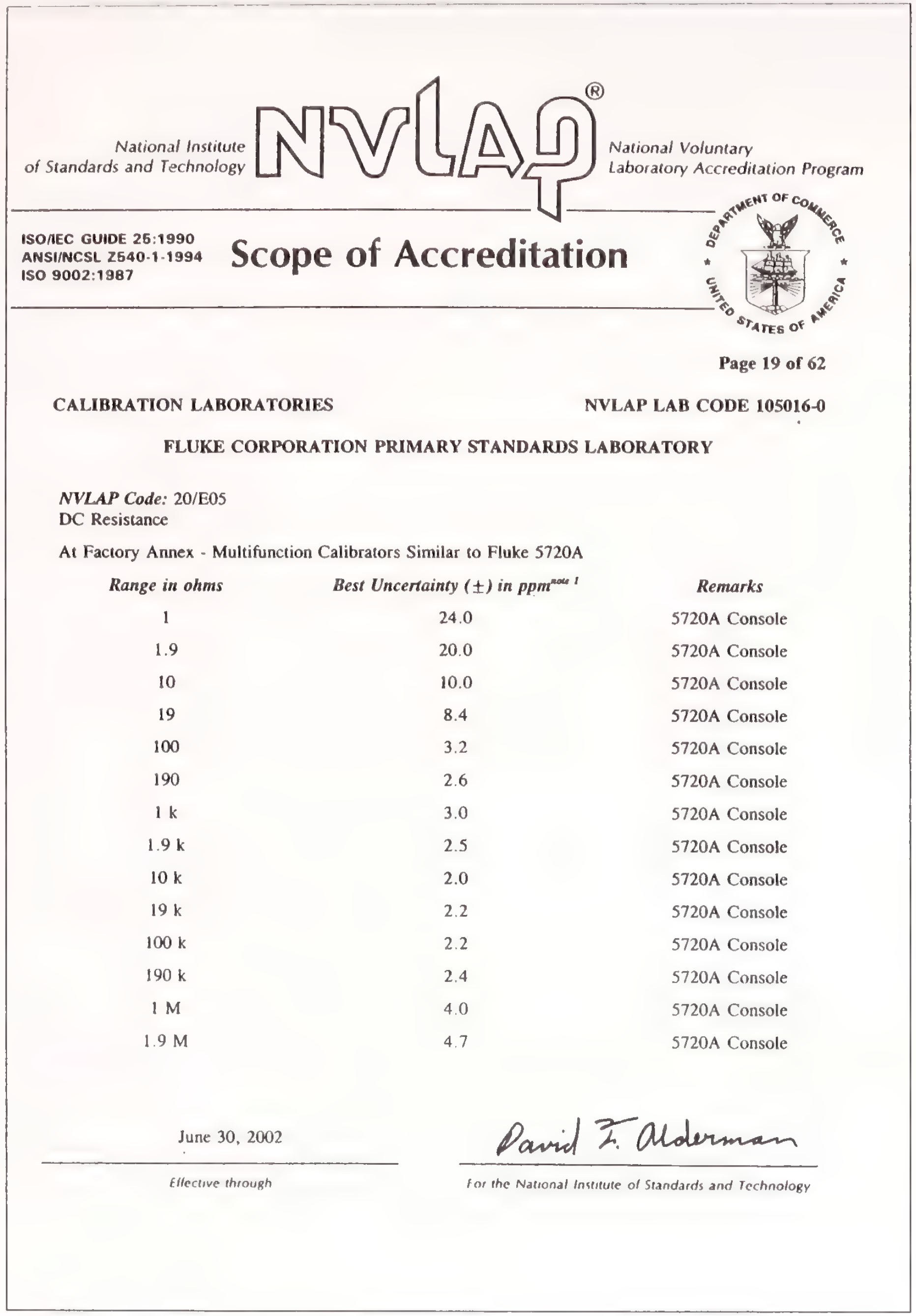

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FLUKE CORPORATION PRIMARY STANDARDS LABORATORY

NVLAP Code: 20/E05
DC Resistance

At Factory Annex - Multifunction Calibrators Similar to Fluke 5720A

Range in ohms	*Best Uncertainty (±) in ppm*$^{\text{note 1}}$	*Remarks*
1	24.0	5720A Console
1.9	20.0	5720A Console
10	10.0	5720A Console
19	8.4	5720A Console
100	3.2	5720A Console
190	2.6	5720A Console
1 k	3.0	5720A Console
1.9 k	2.5	5720A Console
10 k	2.0	5720A Console
19 k	2.2	5720A Console
100 k	2.2	5720A Console
190 k	2.4	5720A Console
1 M	4.0	5720A Console
1.9 M	4.7	5720A Console

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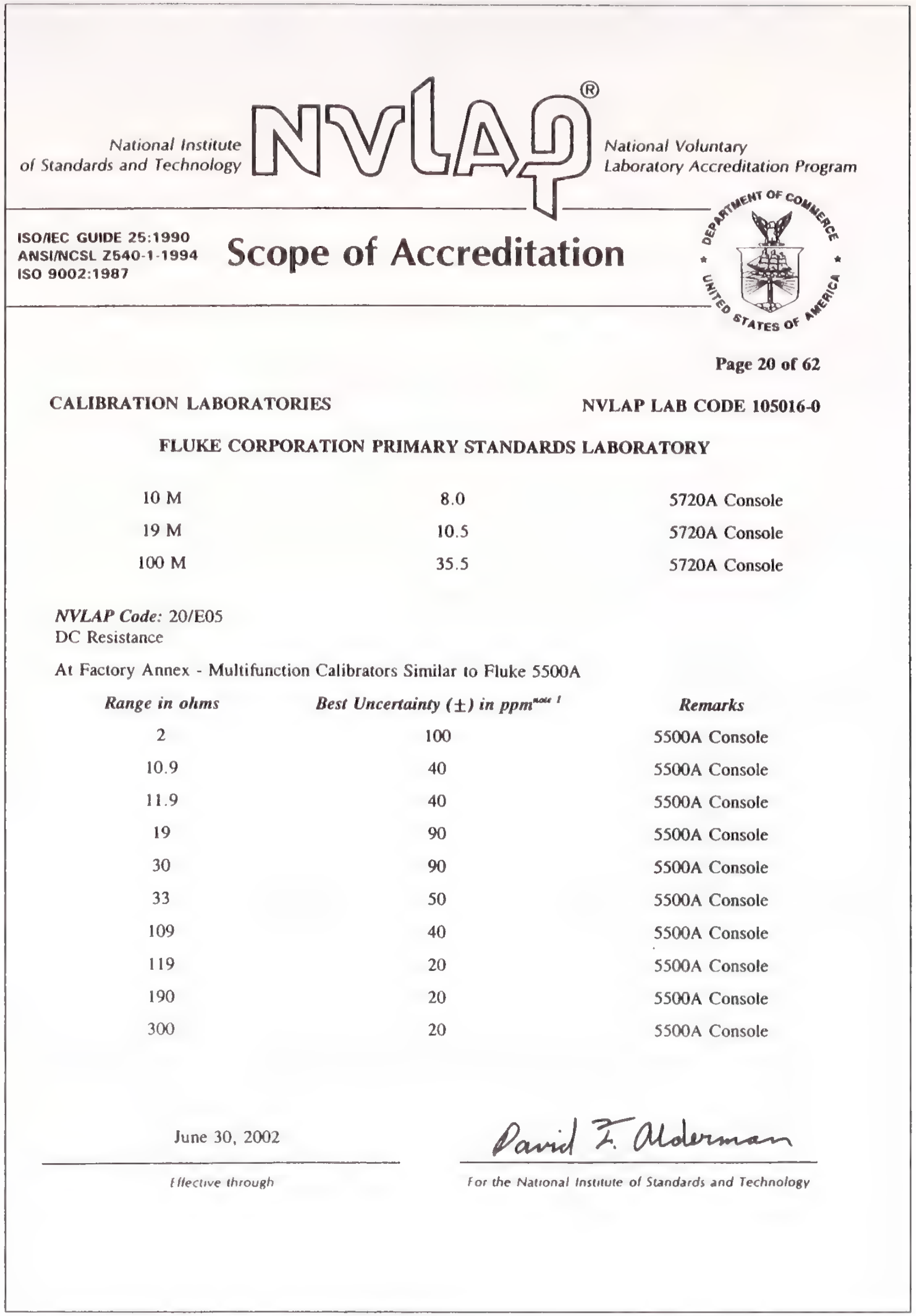

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FLUKE CORPORATION PRIMARY STANDARDS LABORATORY

10 M	8.0	5720A Console
19 M	10.5	5720A Console
100 M	35.5	5720A Console

NVLAP Code: 20/E05
DC Resistance

At Factory Annex - Multifunction Calibrators Similar to Fluke 5500A

Range in ohms	*Best Uncertainty (±) in ppm*$^{\text{note 1}}$	*Remarks*
2	100	5500A Console
10.9	40	5500A Console
11.9	40	5500A Console
19	90	5500A Console
30	90	5500A Console
33	50	5500A Console
109	40	5500A Console
119	20	5500A Console
190	20	5500A Console
300	20	5500A Console

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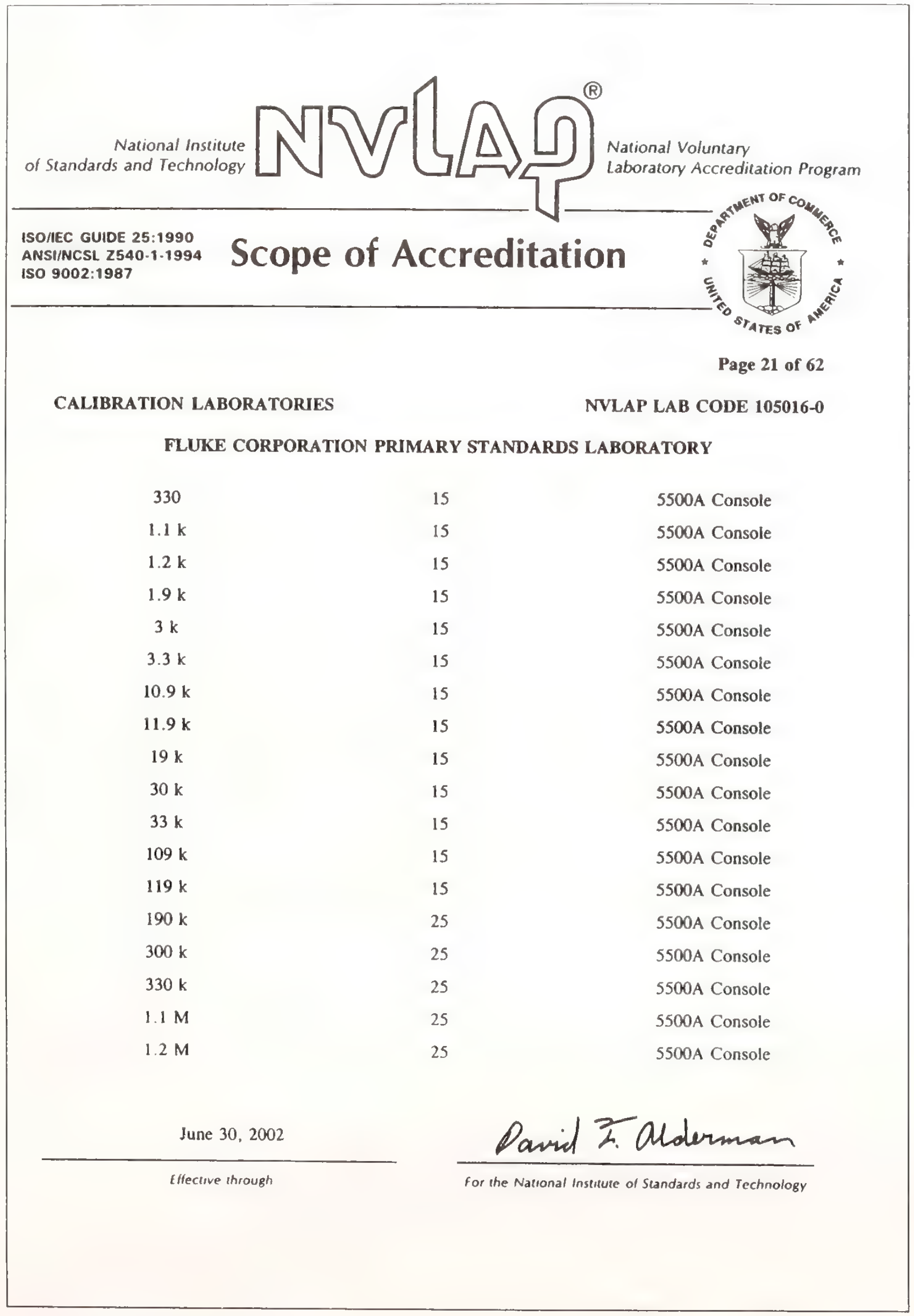

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FLUKE CORPORATION PRIMARY STANDARDS LABORATORY

330	15	5500A Console
1.1 k	15	5500A Console
1.2 k	15	5500A Console
1.9 k	15	5500A Console
3 k	15	5500A Console
3.3 k	15	5500A Console
10.9 k	15	5500A Console
11.9 k	15	5500A Console
19 k	15	5500A Console
30 k	15	5500A Console
33 k	15	5500A Console
109 k	15	5500A Console
119 k	15	5500A Console
190 k	25	5500A Console
300 k	25	5500A Console
330 k	25	5500A Console
1.1 M	25	5500A Console
1.2 M	25	5500A Console

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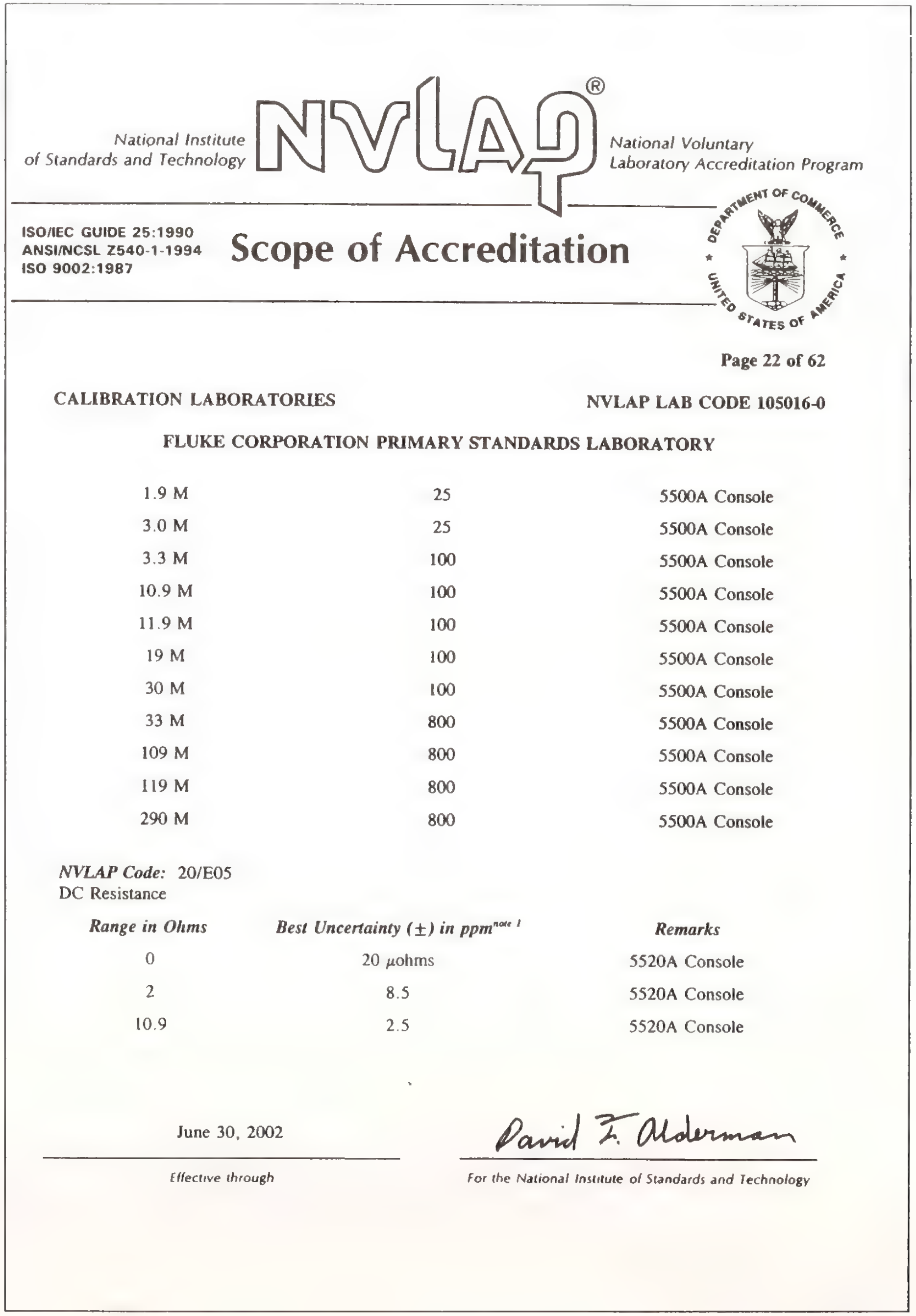

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FLUKE CORPORATION PRIMARY STANDARDS LABORATORY

1.9 M	25	5500A Console
3.0 M	25	5500A Console
3.3 M	100	5500A Console
10.9 M	100	5500A Console
11.9 M	100	5500A Console
19 M	100	5500A Console
30 M	100	5500A Console
33 M	800	5500A Console
109 M	800	5500A Console
119 M	800	5500A Console
290 M	800	5500A Console

NVLAP Code: 20/E05
DC Resistance

Range in Ohms	*Best Uncertainty (±) in ppm*$^{\text{note 1}}$	*Remarks*
0	20 μohms	5520A Console
2	8.5	5520A Console
10.9	2.5	5520A Console

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FLUKE CORPORATION PRIMARY STANDARDS LABORATORY

11.9	2.5	5520A Console
19	2.5	5520A Console
30	2.8	5520A Console
33	2.5	5520A Console
109	2	5520A Console
119	2	5520A Console
190	2	5520A Console
300	2.5	5520A Console
330	2.5	5520A Console
1.09 k	2	5520A Console
1.19 k	2	5520A Console
1.9 k	2	5520A Console
3 k	2.5	5520A Console
3.3 k	3.0	5520A Console
10.9 k	2.5	5520A Console
11.9 k	2.5	5520A Console
19 k	2.5	5520A Console
30 k	3	5520A Console

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FLUKE CORPORATION PRIMARY STANDARDS LABORATORY

33 k	3	5520A Console
109 k	3	5520A Console
119 k	3	5520A Console
190 k	3	5520A Console
300 k	3.5	5520A Console
330 k	3.5	5520A Console
1.09 M	4.5	5520A Console
1.19 M	4.5	5520A Console
1.9 M	5	5520A Console
3 M	6	5520A Console
3.3 M	6	5520A Console
10.9 M	8	5520A Console
11.9 M	8	5520A Console
19 M	20	5520A Console
30 M	30	5520A Console
33 M	30	5520A Console
109 M	70	5520A Console
119 M	70	5520A Console

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FLUKE CORPORATION PRIMARY STANDARDS LABORATORY

290 M	200	5520A Console
400 M	200	5520A Console
640 M	600	5520A Console
1.09 G	1000	5520A Console
2 to 30	25	Factory Annex, 5520A Console
33 to 109	12	Factory Annex, 5520A Console
119 to 1.19 M	7	Factory Annex, 5520A Console
1.9 M to 11.9 M	12	Factory Annex, 5520A Console
19 M	25	Factory Annex, 5520A Console
30 M	75	Factory Annex, 5520A Console
33 M	75	Factory Annex, 5520A Console
109 M	120	Factory Annex, 5520A Console
119 M	150	Factory Annex, 5520A Console
290 M	550	Factory Annex, 5520A Console
400 M	800	Factory Annex, 5520A Console
640 M	1500	Factory Annex, 5520A Console
1090 M	2500	Factory Annex, 5520A Console

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FLUKE CORPORATION PRIMARY STANDARDS LABORATORY

NVLAP Code: 20/E05
DC Current

Range	*Best Uncertainty (±) in* $\text{ppm}^{\text{note 1}}$	*Remarks*
to 19 µA	10	Calibrators or DMMs
100 µA to 190 µA	4	Calibrators or DMMs
1.0 mA to 1.9 mA	4	Calibrators or DMMs
10 mA to 19 mA	9	Calibrators or DMMs
100 mA to 190 mA	10	Calibrators or DMMs
1.0 A	11	Calibrators or DMMs
1.9 A	10	Calibrators or DMMs
10 A	22	Calibrators or DMMs

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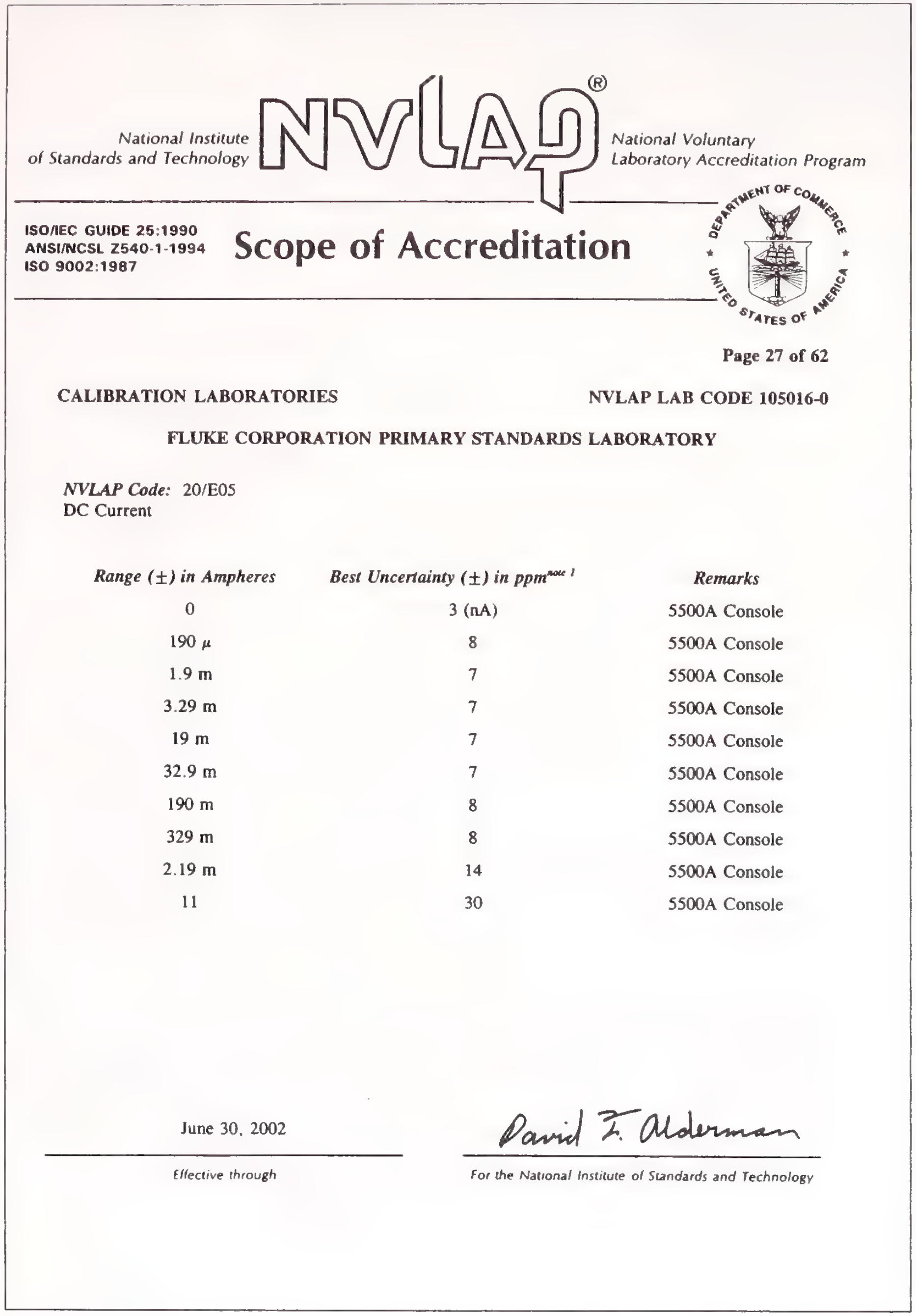

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FLUKE CORPORATION PRIMARY STANDARDS LABORATORY

NVLAP Code: 20/E05
DC Current

Range (±) in Amperes	*Best Uncertainty (±) in ppm*$^{\text{note 1}}$	*Remarks*
0	3 (nA)	5500A Console
190 μ	8	5500A Console
1.9 m	7	5500A Console
3.29 m	7	5500A Console
19 m	7	5500A Console
32.9 m	7	5500A Console
190 m	8	5500A Console
329 m	8	5500A Console
2.19 m	14	5500A Console
11	30	5500A Console

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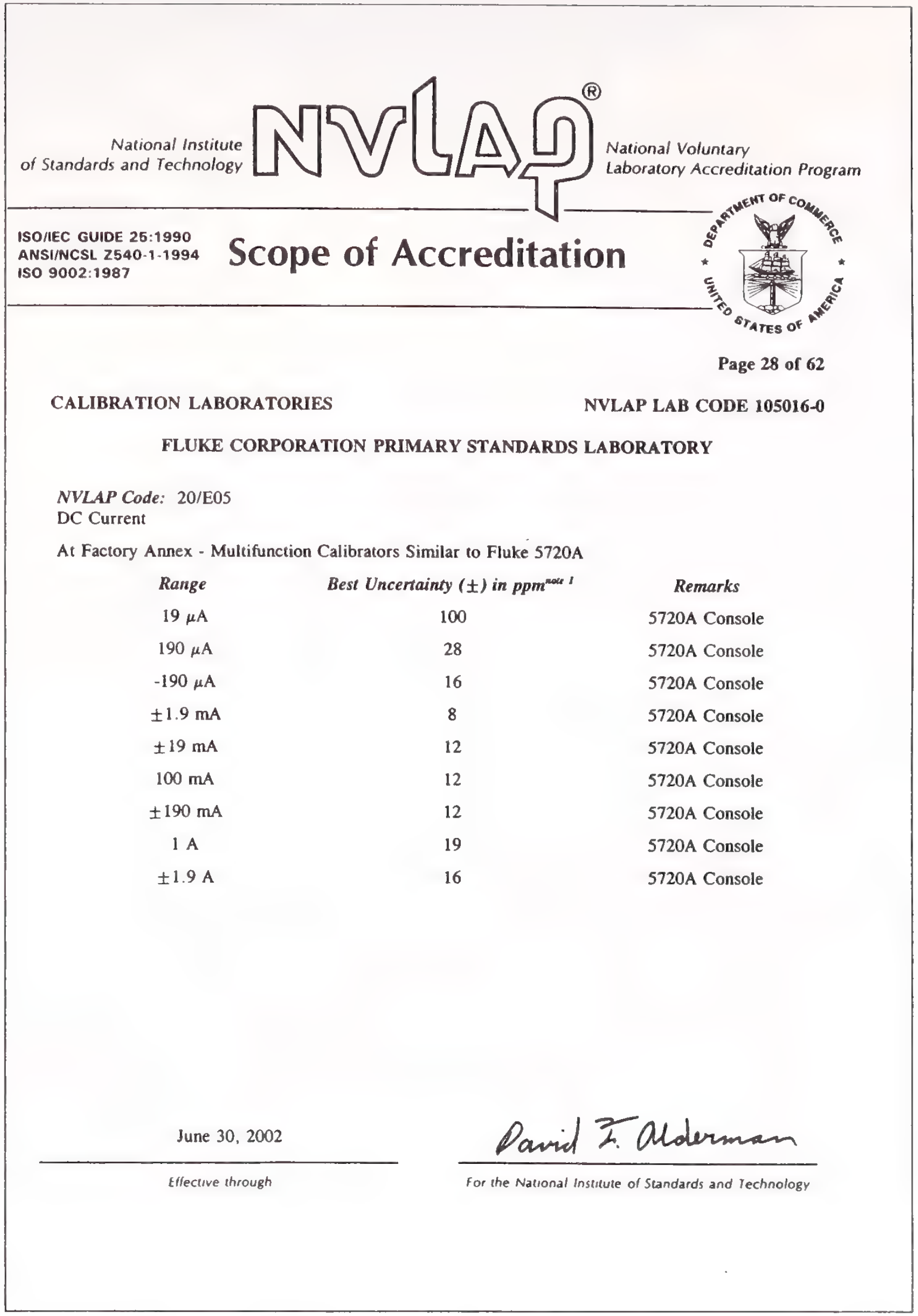

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FLUKE CORPORATION PRIMARY STANDARDS LABORATORY

NVLAP Code: 20/E05
DC Current

At Factory Annex - Multifunction Calibrators Similar to Fluke 5720A

Range	*Best Uncertainty (±) in ppm*$^{\text{note 1}}$	*Remarks*
19 μA	100	5720A Console
190 μA	28	5720A Console
-190 μA	16	5720A Console
±1.9 mA	8	5720A Console
±19 mA	12	5720A Console
100 mA	12	5720A Console
±190 mA	12	5720A Console
1 A	19	5720A Console
±1.9 A	16	5720A Console

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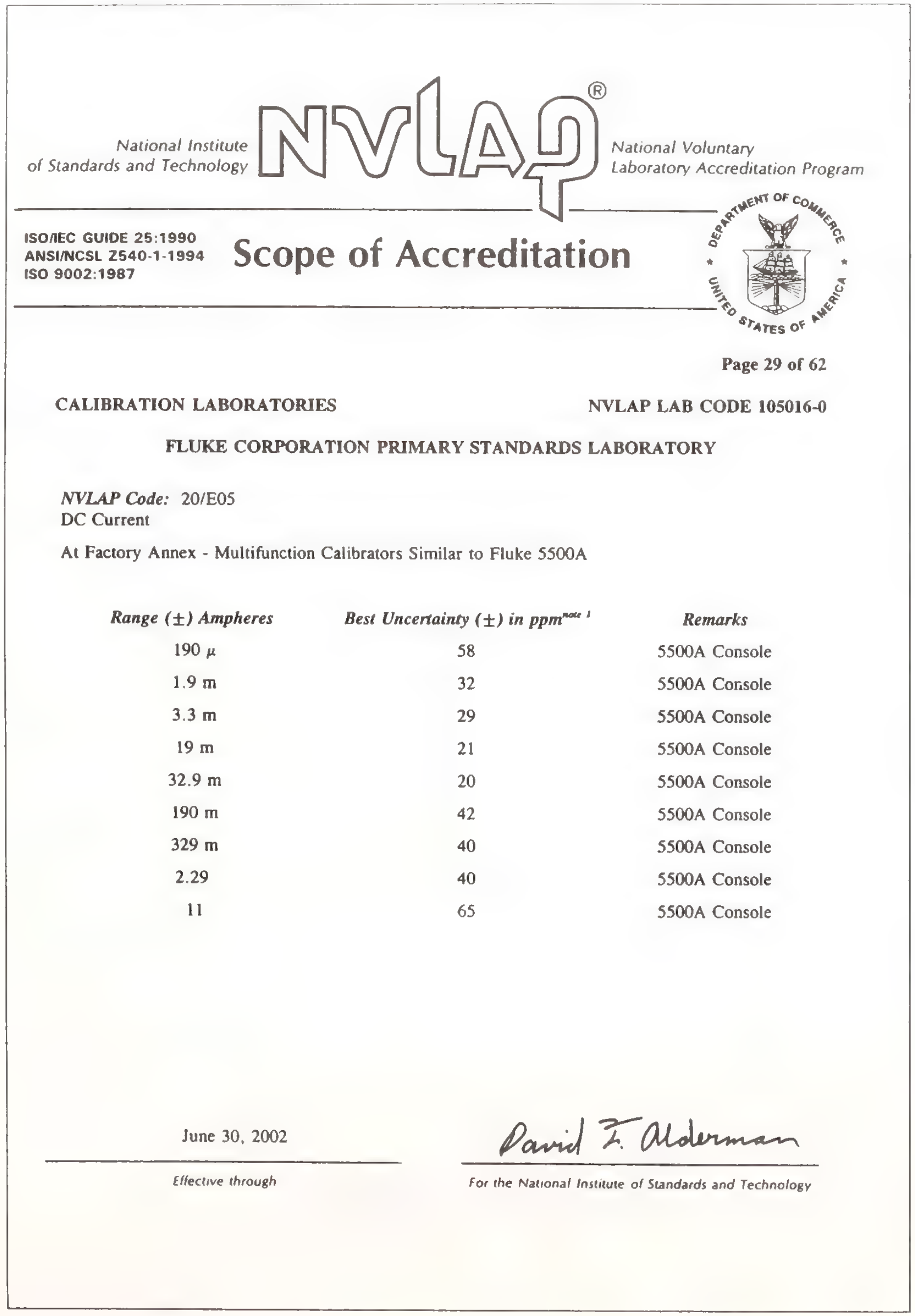

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FLUKE CORPORATION PRIMARY STANDARDS LABORATORY

NVLAP Code: 20/E05
DC Current

At Factory Annex - Multifunction Calibrators Similar to Fluke 5500A

Range (±) Ampheres	*Best Uncertainty (±) in ppm*$^{\text{note 1}}$	*Remarks*
190 µ	58	5500A Console
1.9 m	32	5500A Console
3.3 m	29	5500A Console
19 m	21	5500A Console
32.9 m	20	5500A Console
190 m	42	5500A Console
329 m	40	5500A Console
2.29	40	5500A Console
11	65	5500A Console

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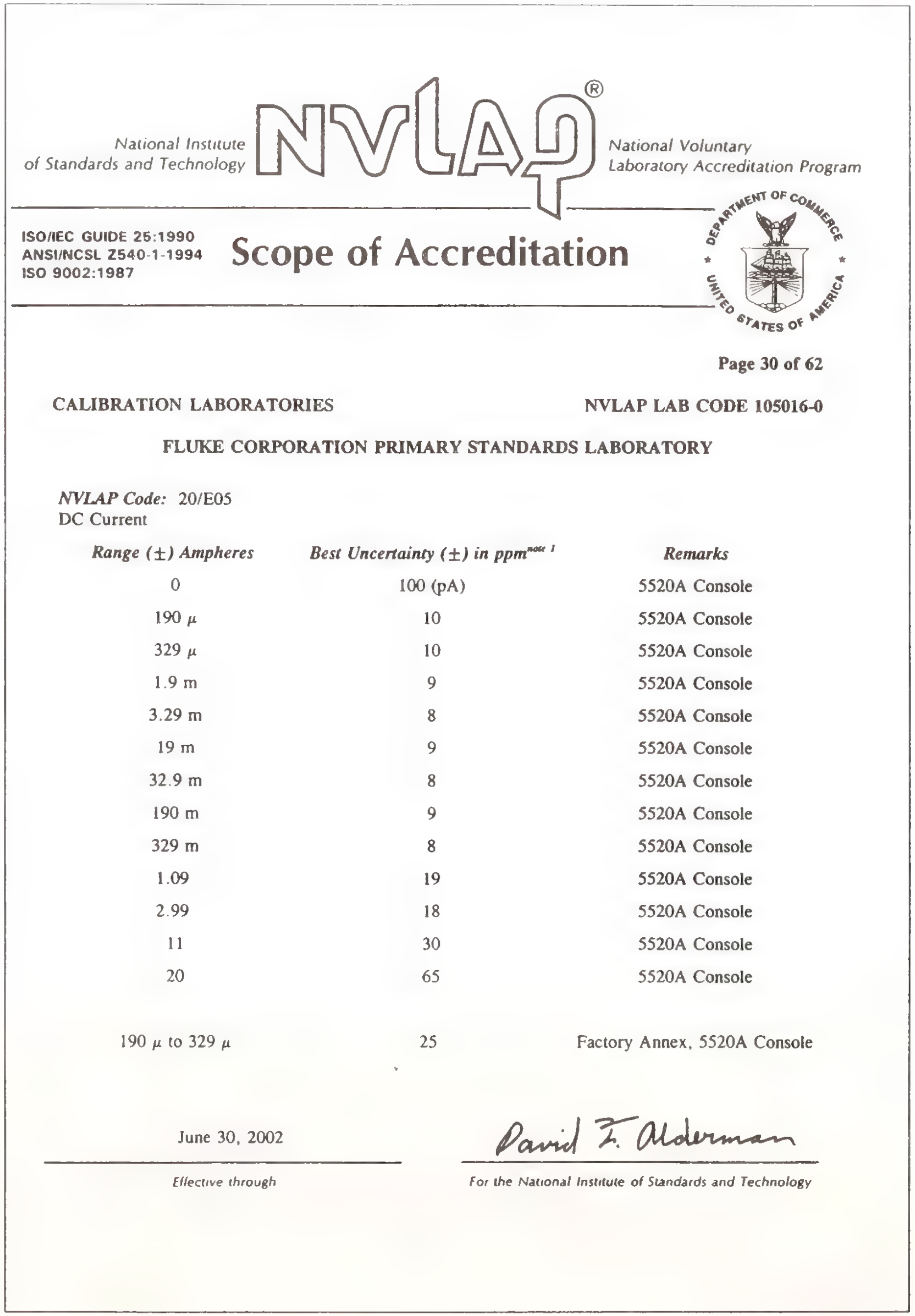

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FLUKE CORPORATION PRIMARY STANDARDS LABORATORY

NVLAP Code: 20/E05
DC Current

Range (±) Ampheres	*Best Uncertainty (±) in ppm*$^{\text{note 1}}$	*Remarks*
0	100 (pA)	5520A Console
190 µ	10	5520A Console
329 µ	10	5520A Console
1.9 m	9	5520A Console
3.29 m	8	5520A Console
19 m	9	5520A Console
32.9 m	8	5520A Console
190 m	9	5520A Console
329 m	8	5520A Console
1.09	19	5520A Console
2.99	18	5520A Console
11	30	5520A Console
20	65	5520A Console
190 µ to 329 µ	25	Factory Annex, 5520A Console

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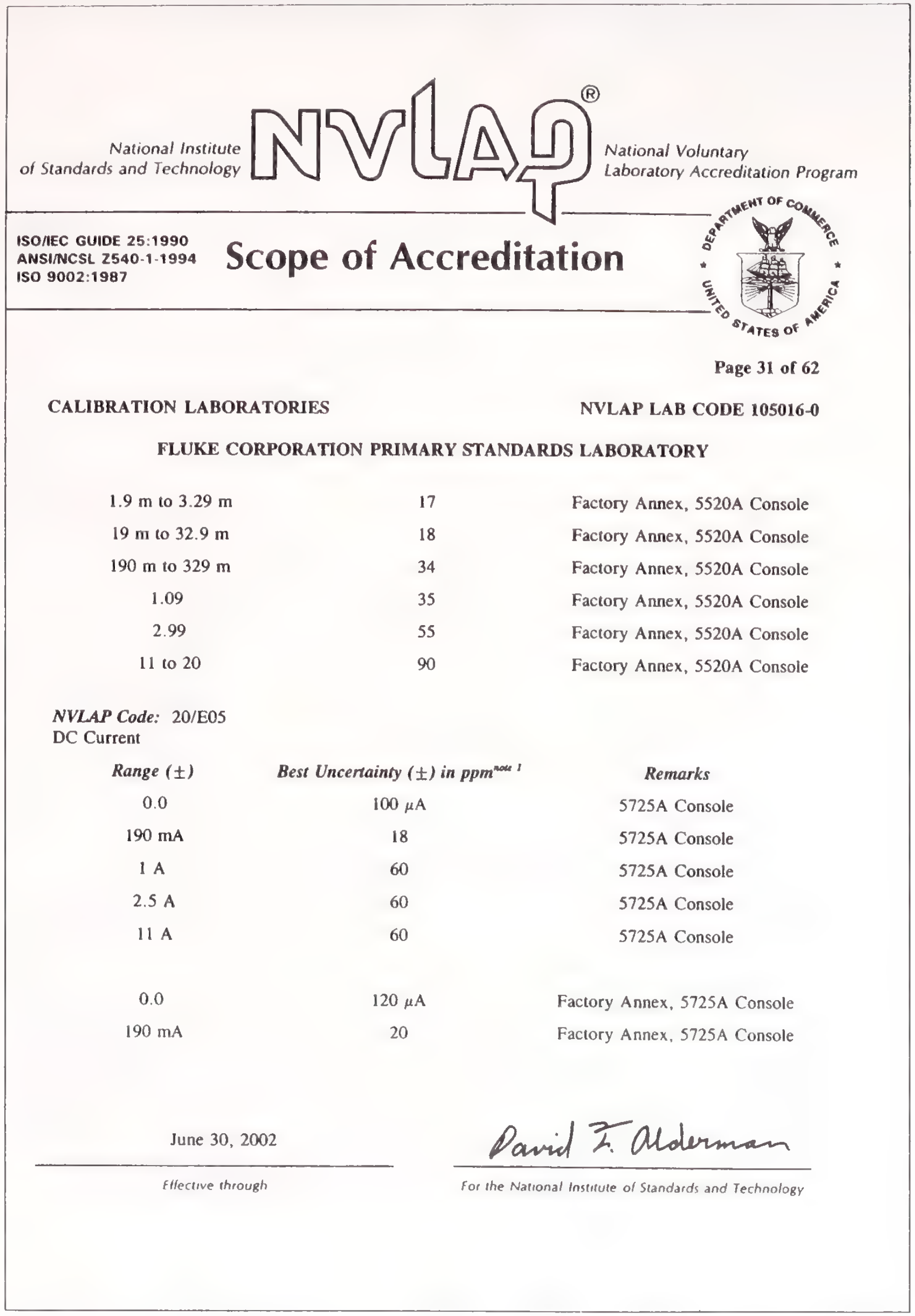

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FLUKE CORPORATION PRIMARY STANDARDS LABORATORY

1.9 m to 3.29 m	17	Factory Annex, 5520A Console
19 m to 32.9 m	18	Factory Annex, 5520A Console
190 m to 329 m	34	Factory Annex, 5520A Console
1.09	35	Factory Annex, 5520A Console
2.99	55	Factory Annex, 5520A Console
11 to 20	90	Factory Annex, 5520A Console

NVLAP Code: 20/E05
DC Current

Range (±)	*Best Uncertainty (±) in ppm*$^{note\ 1}$	*Remarks*
0.0	100 μA	5725A Console
190 mA	18	5725A Console
1 A	60	5725A Console
2.5 A	60	5725A Console
11 A	60	5725A Console
0.0	120 μA	Factory Annex, 5725A Console
190 mA	20	Factory Annex, 5725A Console

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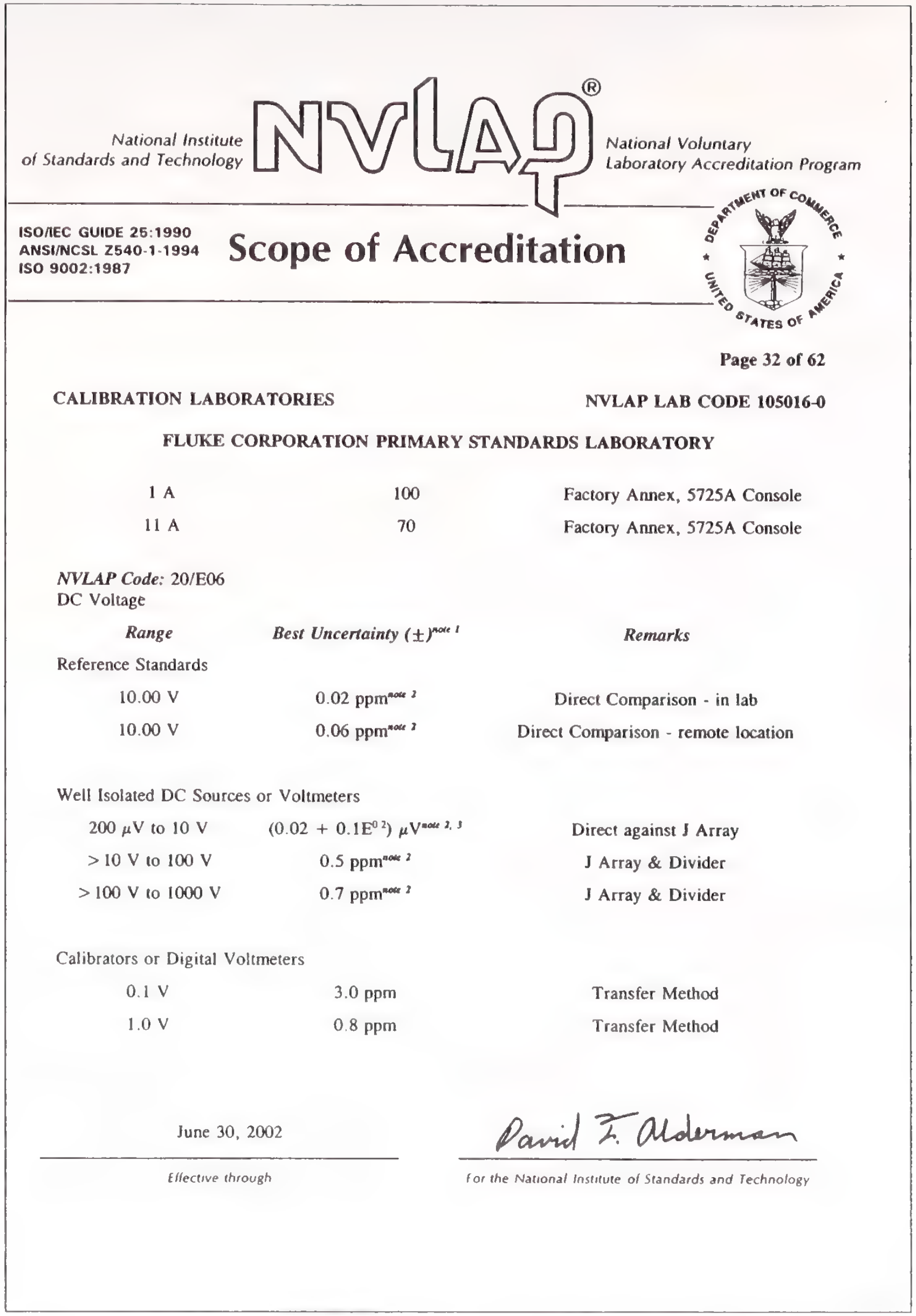

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FLUKE CORPORATION PRIMARY STANDARDS LABORATORY

1 A	100	Factory Annex, 5725A Console
11 A	70	Factory Annex, 5725A Console

NVLAP Code: 20/E06
DC Voltage

Range	*Best Uncertainty (±)*$^{note\ 1}$	*Remarks*
Reference Standards		
10.00 V	0.02 ppm$^{note\ 2}$	Direct Comparison - in lab
10.00 V	0.06 ppm$^{note\ 2}$	Direct Comparison - remote location
Well Isolated DC Sources or Voltmeters		
200 μV to 10 V	$(0.02 + 0.1E^{0\,2})$ μV$^{note\ 2,\ 3}$	Direct against J Array
>10 V to 100 V	0.5 ppm$^{note\ 2}$	J Array & Divider
>100 V to 1000 V	0.7 ppm$^{note\ 2}$	J Array & Divider
Calibrators or Digital Voltmeters		
0.1 V	3.0 ppm	Transfer Method
1.0 V	0.8 ppm	Transfer Method

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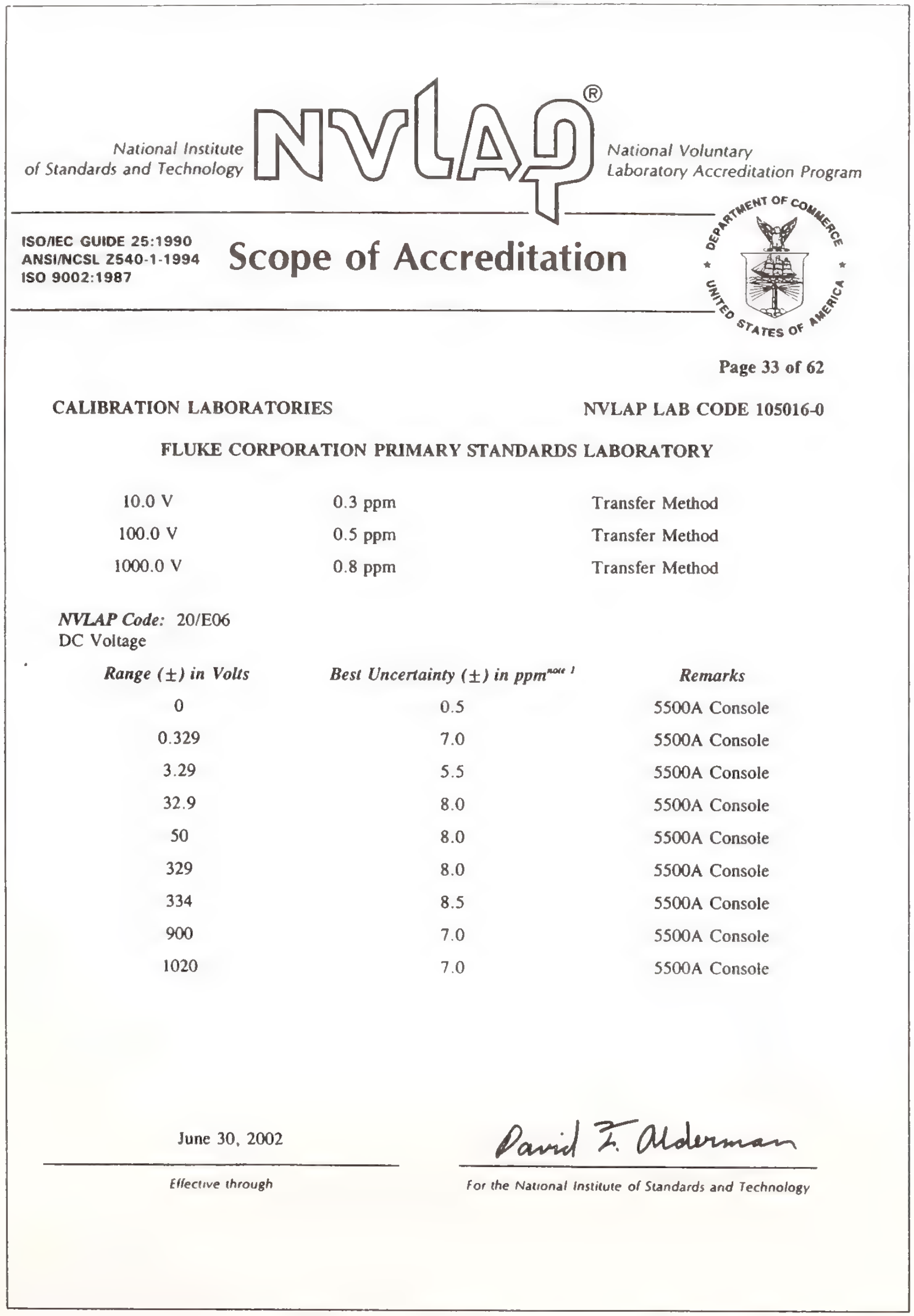

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FLUKE CORPORATION PRIMARY STANDARDS LABORATORY

10.0 V	0.3 ppm	Transfer Method
100.0 V	0.5 ppm	Transfer Method
1000.0 V	0.8 ppm	Transfer Method

NVLAP Code: 20/E06
DC Voltage

Range (±) in Volts	*Best Uncertainty (±) in ppm*[note 1]	*Remarks*
0	0.5	5500A Console
0.329	7.0	5500A Console
3.29	5.5	5500A Console
32.9	8.0	5500A Console
50	8.0	5500A Console
329	8.0	5500A Console
334	8.5	5500A Console
900	7.0	5500A Console
1020	7.0	5500A Console

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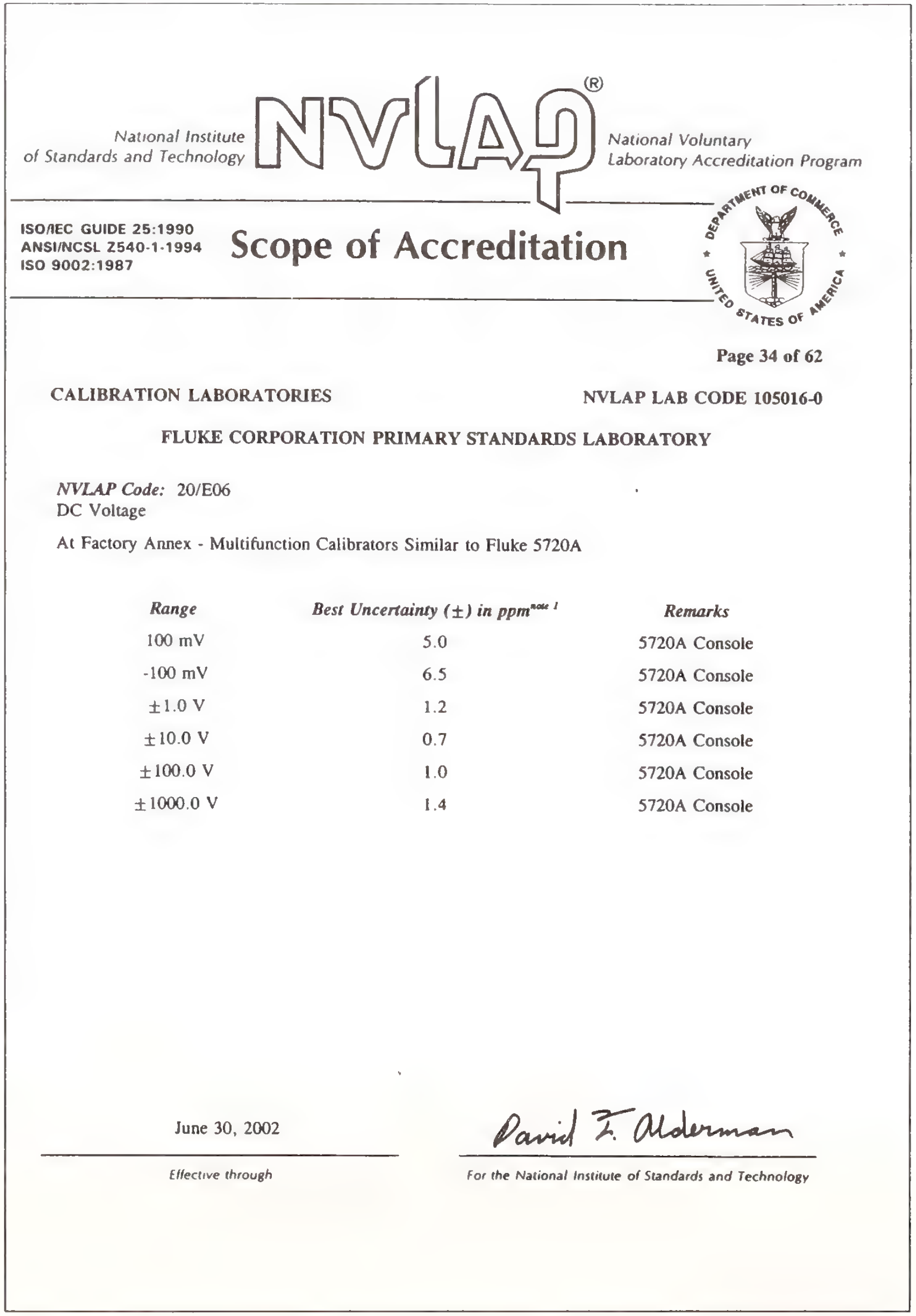

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FLUKE CORPORATION PRIMARY STANDARDS LABORATORY

NVLAP Code: 20/E06
DC Voltage

At Factory Annex - Multifunction Calibrators Similar to Fluke 5720A

Range	*Best Uncertainty (±) in ppm*[note 1]	*Remarks*
100 mV	5.0	5720A Console
-100 mV	6.5	5720A Console
±1.0 V	1.2	5720A Console
±10.0 V	0.7	5720A Console
±100.0 V	1.0	5720A Console
±1000.0 V	1.4	5720A Console

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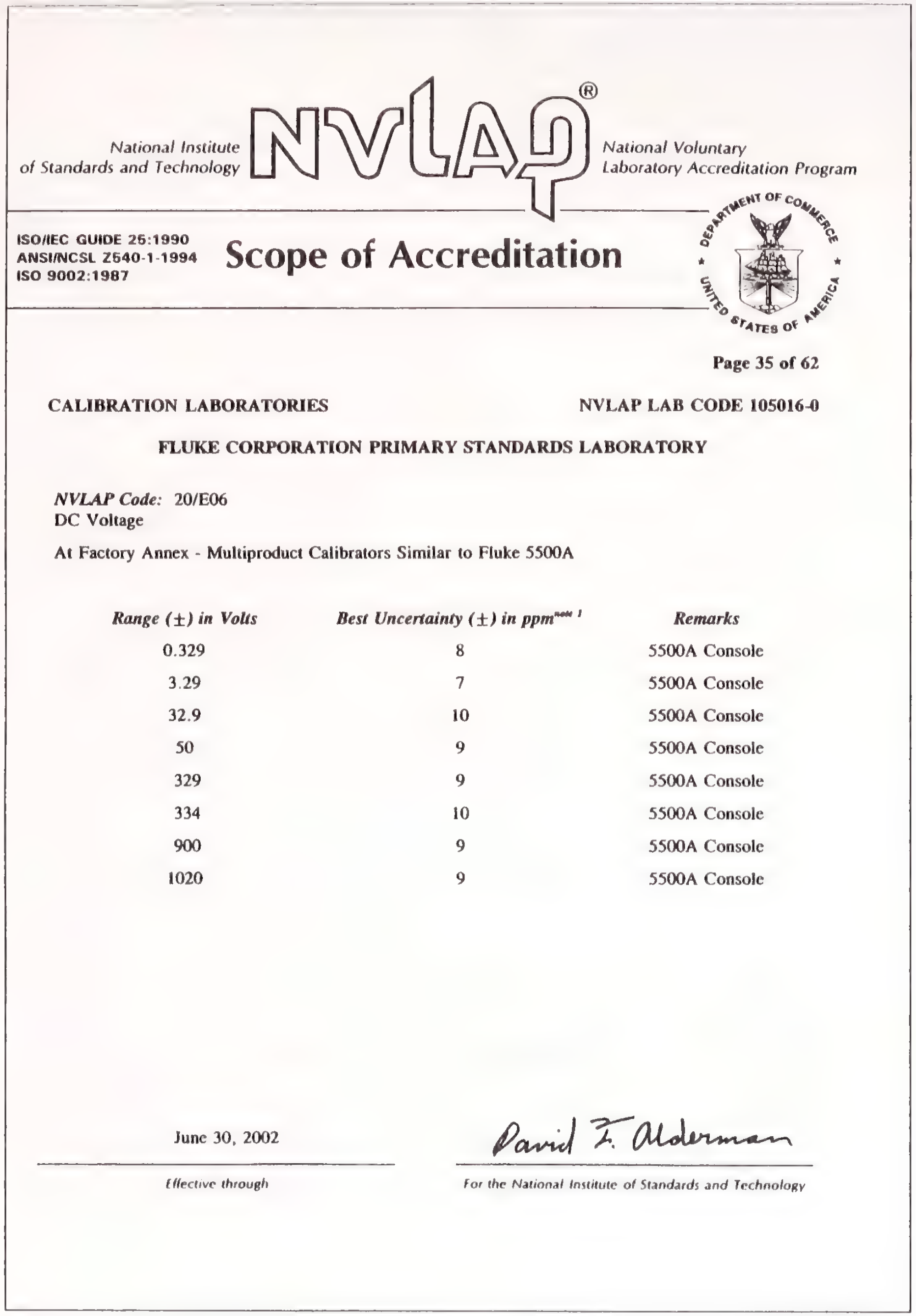

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FLUKE CORPORATION PRIMARY STANDARDS LABORATORY

NVLAP Code: 20/E06
DC Voltage

At Factory Annex - Multiproduct Calibrators Similar to Fluke 5500A

Range (±) in Volts	*Best Uncertainty (±) in ppm*[note 1]	*Remarks*
0.329	8	5500A Console
3.29	7	5500A Console
32.9	10	5500A Console
50	9	5500A Console
329	9	5500A Console
334	10	5500A Console
900	9	5500A Console
1020	9	5500A Console

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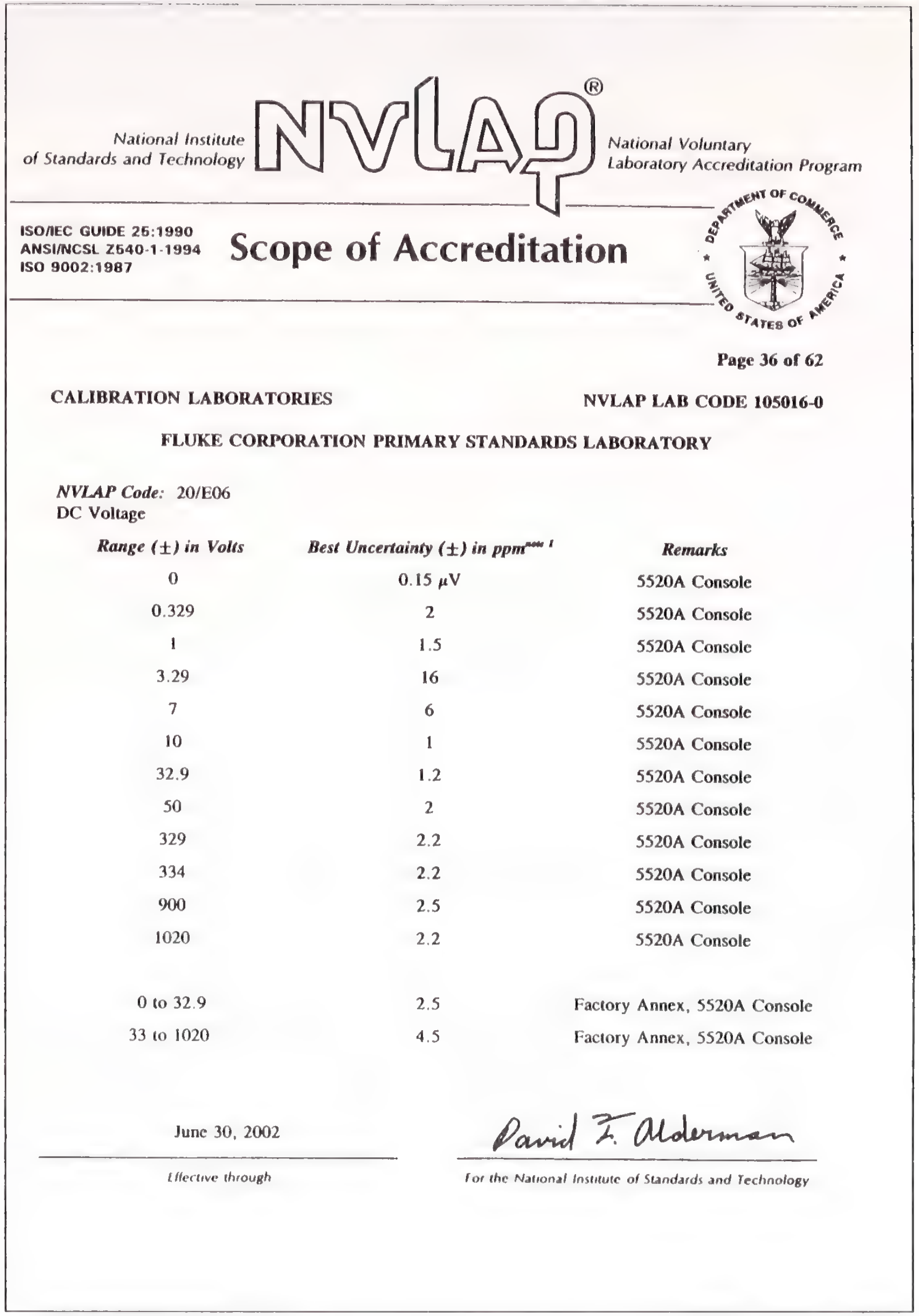

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FLUKE CORPORATION PRIMARY STANDARDS LABORATORY

NVLAP Code: 20/E06
DC Voltage

Range (±) in Volts	*Best Uncertainty (±) in ppm*[note 1]	*Remarks*
0	0.15 μV	5520A Console
0.329	2	5520A Console
1	1.5	5520A Console
3.29	16	5520A Console
7	6	5520A Console
10	1	5520A Console
32.9	1.2	5520A Console
50	2	5520A Console
329	2.2	5520A Console
334	2.2	5520A Console
900	2.5	5520A Console
1020	2.2	5520A Console
0 to 32.9	2.5	Factory Annex, 5520A Console
33 to 1020	4.5	Factory Annex, 5520A Console

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FLUKE CORPORATION PRIMARY STANDARDS LABORATORY

NVLAP Code: 20/E09
LF AC Voltage

Best Uncertainty (±) in ppm$^{\text{note 1}}$
Frequency in Hertz

Range	*10*	*20*	*40*	*100*	*1k*	*10k*	*20k*	*50k*	*100k*	*300k*	*500k*	*800k*	*1 M*
2 mV	500	970	720	980	500	850	1120	500	1170	1280	2060	2550	2910
6 mV	260	290	190	180	230	200	180	330	520	700	900	360	390
10 mV	130	230	110	180	250	140	140	210	340	240	640	360	390
20 mV	90	80	75	75	75	75	75	170	260	350	500	330	360
60 mV	80	80	60	48	37	38	43	62	120	230	270	330	370
100 mV	35	70	21	44	34	22	26	41	70	140	140	210	180
200 mV	35	23	19	19	19	19	19	30	60	100	110	180	190
600 mV	20	65	17	10	16	9	10	12	12	80	80	80	80
1 V	120	31	14	10	13	13	10	22	10	80	100	100	80
2 V	20	15	20	9	8	8	8	15	10	90	100	80	80
6 V	25	16	15	9	8	9	8	21	11	100	100	80	80
10 V	20	40	13	10	9	9	10	10	15	80	100	100	90

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FLUKE CORPORATION PRIMARY STANDARDS LABORATORY

NVLAP Code: 20/E09
LF AC Voltage

20 V	20	17	16	9	9	9	9	10	15	100	110	80	80
60 V	25	19	18	11	11	14	11	35	20	80			
100 V	130	45	20	14	13	12	10	40	20				
200 V	25	22	16	15	12	12	13	40	20				
600 V	180	55	31	22	16	17	18	25	45				
1000 V	55	22	21	20	19	19	19	30	50				

NVLAP Code: 20/E09
AC Voltage

Multiproduct Calibrators Similar to Fluke 5500A

Best Uncertainty (±) in ppm$^{\text{note 1}}$
Frequency in Hertz

Range in Volts	*9.5*	*10*	*45*	*1 k*	*5k*	*8 k*	*10 k*	*18 k*	*20 k*	*50 k*	*90 k*	*100 k*	*450 k*	*500 k*
0.01			430	430	430		430							
0.03	1000	120	70	65			65		65	150		260	470	
0.3	1000	50	30	30	35		25		25	35		70		180

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NVLAP Code: 20/E09
AC Voltage

3.0	1000	30	25	20	25		20		20	35		35	130
30	1000	35	27	20			20		25	45	65		
300			36	25			25	25					
1000			35	35	35	35							

NVLAP Code: 20/E09
AC Voltage

At Factory Annex - Multifunction Calibrators Similar to Fluke 5720A

Best Uncertainty (±) in ppm$^{\text{note 1}}$
Frequency in Hertz

Range	*40*	*50*	*1 k*	*20 k*	*100 k*	*300 k*	*500 k*	*1 M*
1.9 mV			740	840				
19 mV	90		90	90	270	420		1100
190 mV	30		60	80	130	240		740
600 mV	30		20	20	50	130		500
1 V	20		10	10	50	100		400

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2 V			20	20				400
3 V	30		20	20	50	180		670
10 V	20		10	10	40	140		400
20 V			10	10				400
30 V	30		20	20	60	330	1700	
100 V	20		20	20	50			
200 V	25		20		60			
500 V		30	20					
1100 V		25	30					

NVLAP Code: 20/E09
AC Voltage

At Factory Annex - Multiproduct Calibrators Similar to Fluke 5500A

Best Uncertainty (±) in ppm$^{\text{note 1}}$
Frequency in Hertz

Range	*10*	*45*	*1 k*	*5 k*	*10 k*	*20 k*	*50 k*	*100 k*	*500 k*
0.03 V	300	180	180		180	180	250	350	900
0.3 V	180	27	27		27	27	50	75	380

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NVLAP Code: 20/E09
AC Voltage

3.0 V	180	27	27		27	27	50	75	380
30 V	160	30	30		30	30	55	100	
300 V		50	40		40	60			
1000 V		50	50	50	50$^{\text{note 4}}$				

NVLAP Code: 20/E09
AC Voltage

5520A Console

Best Uncertainty (±) in ppm$^{\text{note 1}}$
Frequency in Hertz

Range	*9.5*	*10*	*45*	*1 k*	*5 k*	*10 k*	*18 k*	*20 k*	*30 k*	*50 k*	*90 k*	*100 k*	*450 k*	*500 k*
0.003			250			250								
0.01			350	350	350	500			1050					
0.03	1000	110	64	60		60		60		140		250	450	
0.3	1000	45	25	29		21		25		31		70		150
3.0	1000	30	25	16		16		16		30		35	120	
5.0	1000	60	50	40	40	40								
30	1000	35	26	18		18		20		40	60			

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200							110
300	36	22		21	23	40	
1000	30	30	30	30$^{\text{note 4}}$			

NVLAP Code: 20/E09
AC Voltage

Factory Annex 5520A Test Console

Best Uncertainty (±) in ppm$^{\text{note 1}}$
Frequency in Hertz

Voltage Alternating	*9.5*	*10*	*45*	*1 k*	*10 k*$^{\text{note 8}}$	*20 k*$^{\text{note 7}}$	*50 k*	*100 k*$^{\text{note 6}}$	*450 k*$^{\text{note 5}}$
0.003 V			400		400				
0.03 V	1100	120	70	70	70	70	150	300	600
0.033 V			120		120				
0.3 V	1100	50	35	32	32	32	50	90	250
0.33 V			80		80				
3 V	1100	50	30	30	30	30	50	50	200
3.3 V			85		85				

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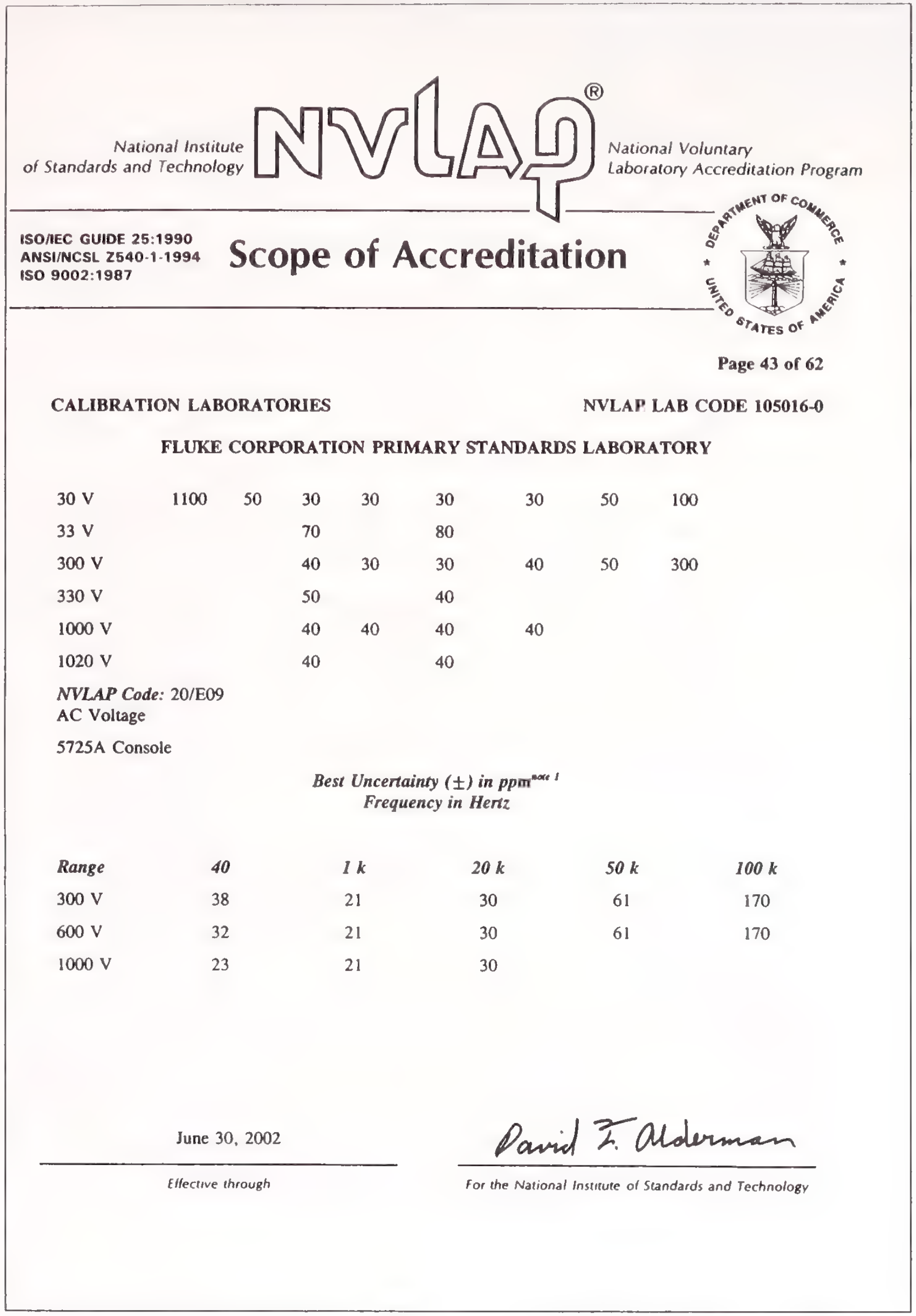

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30 V	1100	50	30	30	30	30	50	100
33 V			70		80			
300 V			40	30	30	40	50	300
330 V			50		40			
1000 V			40	40	40	40		
1020 V			40		40			

NVLAP Code: 20/E09
AC Voltage

5725A Console

Best Uncertainty (±) in ppm^{note 1}
Frequency in Hertz

Range	*40*	*1 k*	*20 k*	*50 k*	*100 k*
300 V	38	21	30	61	170
600 V	32	21	30	61	170
1000 V	23	21	30		

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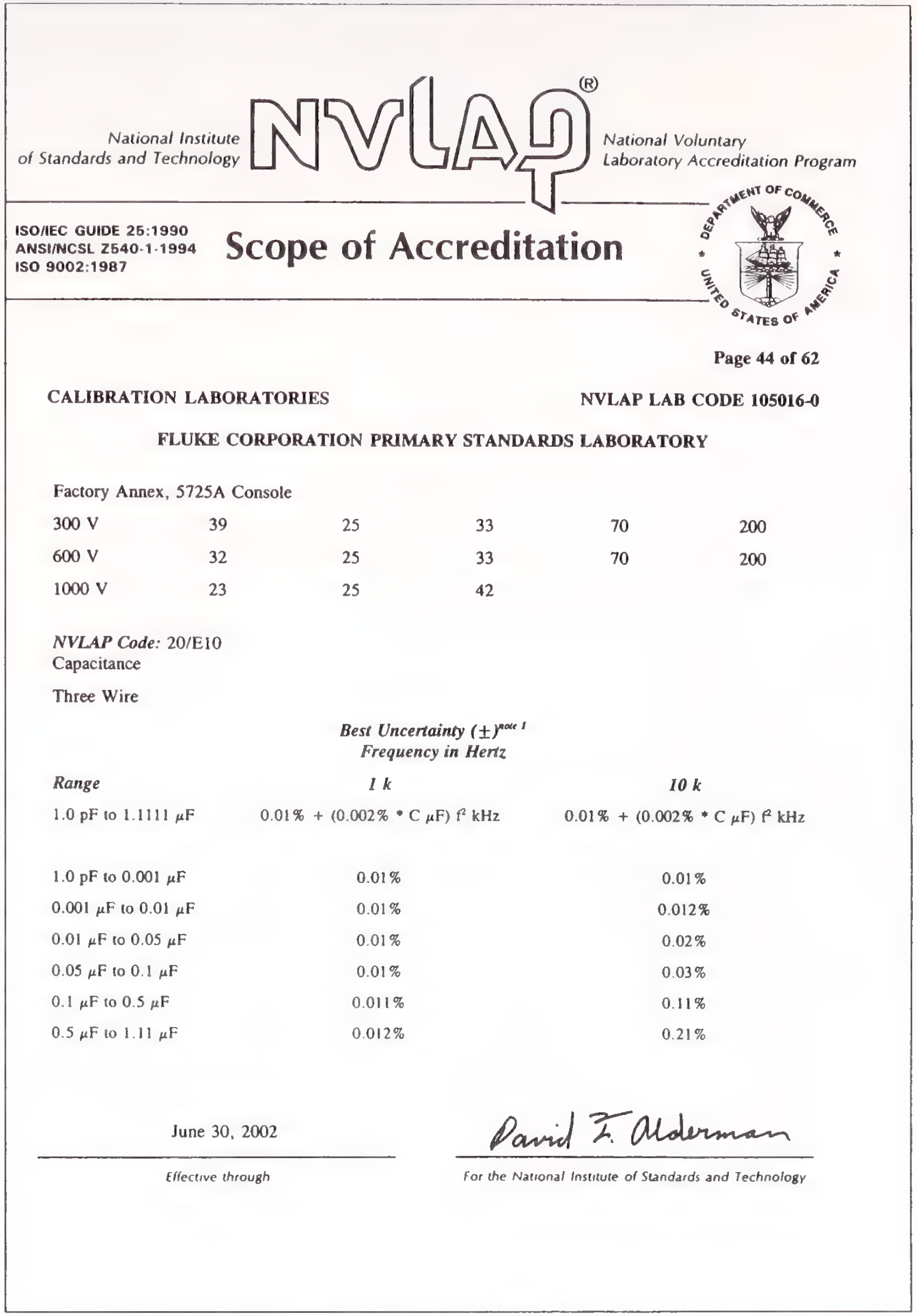

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FLUKE CORPORATION PRIMARY STANDARDS LABORATORY

Factory Annex, 5725A Console

300 V	39	25	33	70	200
600 V	32	25	33	70	200
1000 V	23	25	42		

NVLAP Code: 20/E10
Capacitance

Three Wire

Best Uncertainty (±)^{note 1}
Frequency in Hertz

Range	*1 k*	*10 k*
1.0 pF to 1.1111 μF	0.01% + (0.002% * C μF) f^2 kHz	0.01% + (0.002% * C μF) f^2 kHz
1.0 pF to 0.001 μF	0.01%	0.01%
0.001 μF to 0.01 μF	0.01%	0.012%
0.01 μF to 0.05 μF	0.01%	0.02%
0.05 μF to 0.1 μF	0.01%	0.03%
0.1 μF to 0.5 μF	0.011%	0.11%
0.5 μF to 1.11 μF	0.012%	0.21%

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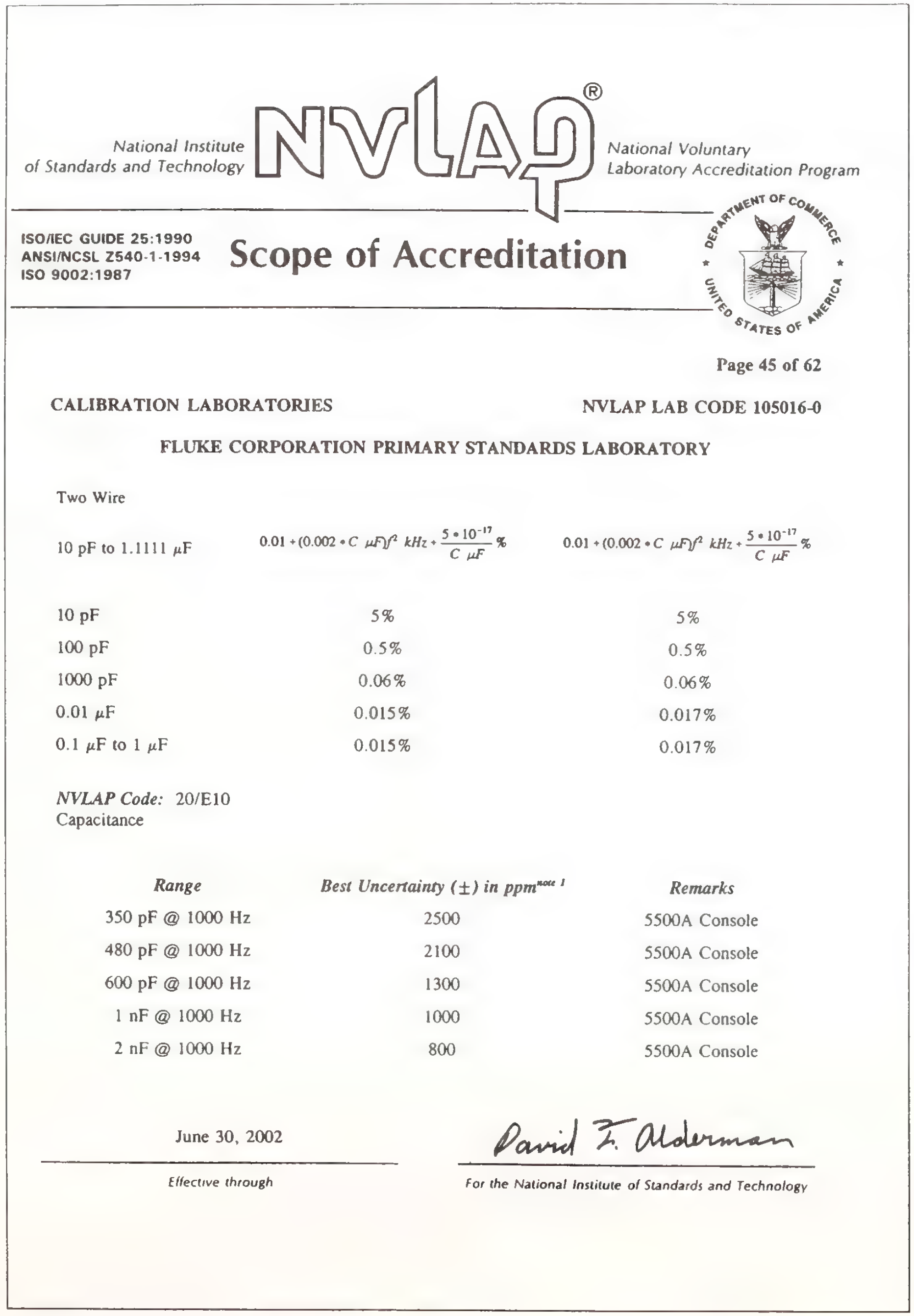

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FLUKE CORPORATION PRIMARY STANDARDS LABORATORY

Two Wire

10 pF to 1.1111 μF	$0.01 + (0.002 \bullet C\ \mu F)^2\ kHz + \frac{5 \bullet 10^{-17}}{C\ \mu F}\ \%$	$0.01 + (0.002 \bullet C\ \mu F)^2\ kHz + \frac{5 \bullet 10^{-17}}{C\ \mu F}\ \%$
10 pF	5%	5%
100 pF	0.5%	0.5%
1000 pF	0.06%	0.06%
0.01 μF	0.015%	0.017%
0.1 μF to 1 μF	0.015%	0.017%

NVLAP Code: 20/E10
Capacitance

Range	*Best Uncertainty (±) in ppm*$^{note\ 1}$	*Remarks*
350 pF @ 1000 Hz	2500	5500A Console
480 pF @ 1000 Hz	2100	5500A Console
600 pF @ 1000 Hz	1300	5500A Console
1 nF @ 1000 Hz	1000	5500A Console
2 nF @ 1000 Hz	800	5500A Console

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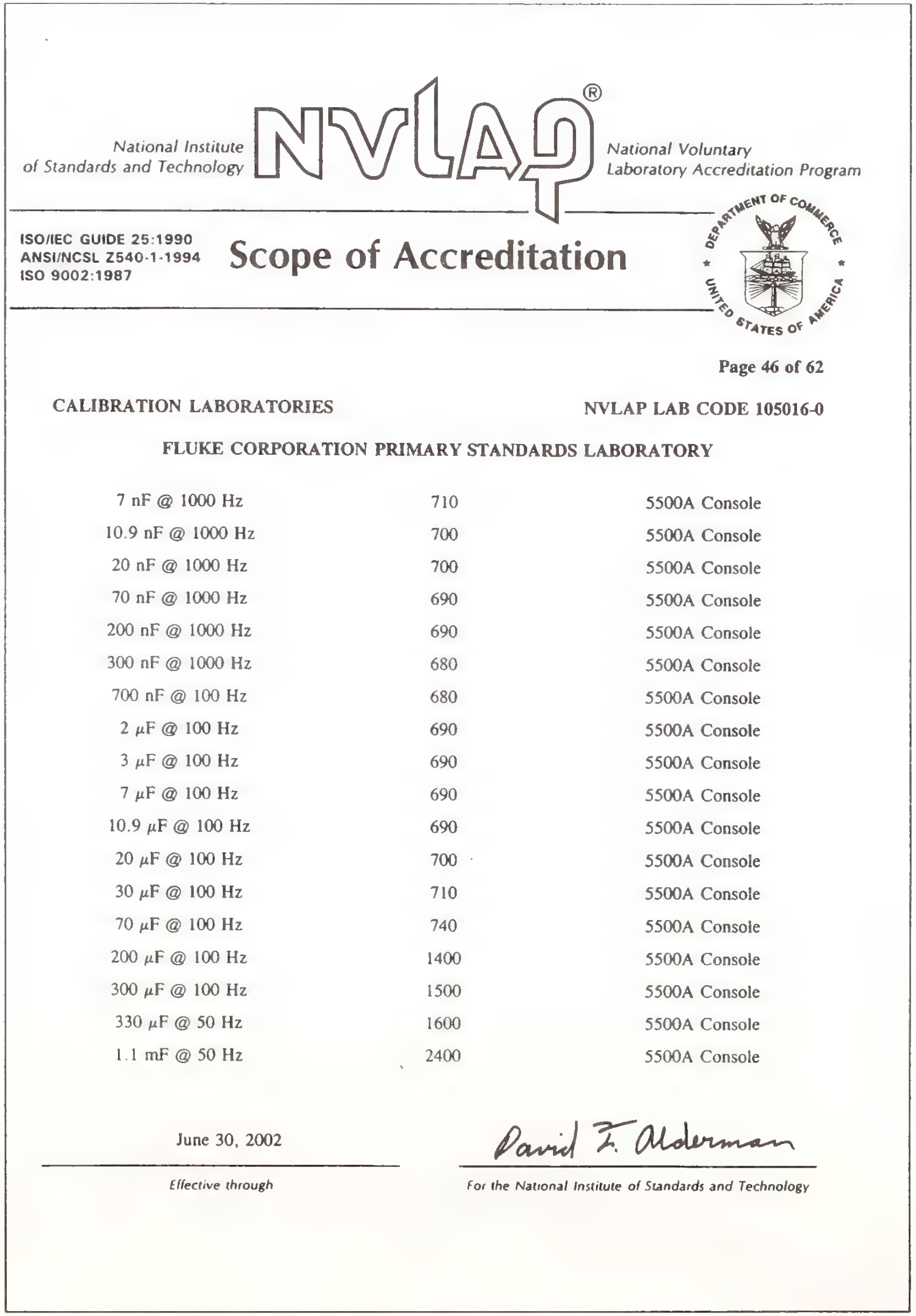

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FLUKE CORPORATION PRIMARY STANDARDS LABORATORY

7 nF @ 1000 Hz	710	5500A Console
10.9 nF @ 1000 Hz	700	5500A Console
20 nF @ 1000 Hz	700	5500A Console
70 nF @ 1000 Hz	690	5500A Console
200 nF @ 1000 Hz	690	5500A Console
300 nF @ 1000 Hz	680	5500A Console
700 nF @ 100 Hz	680	5500A Console
2 μF @ 100 Hz	690	5500A Console
3 μF @ 100 Hz	690	5500A Console
7 μF @ 100 Hz	690	5500A Console
10.9 μF @ 100 Hz	690	5500A Console
20 μF @ 100 Hz	700	5500A Console
30 μF @ 100 Hz	710	5500A Console
70 μF @ 100 Hz	740	5500A Console
200 μF @ 100 Hz	1400	5500A Console
300 μF @ 100 Hz	1500	5500A Console
330 μF @ 50 Hz	1600	5500A Console
1.1 mF @ 50 Hz	2400	5500A Console

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FLUKE CORPORATION PRIMARY STANDARDS LABORATORY

NVLAP Code: 20/E10
Capacitance

At Factory Annex - Multiproduct Calibrators Similar to Fluke 5500A

Range	*Best Uncertainty (±) in ppm*$^{\text{note 1}}$	*Remarks*
350 pF @ 1000 Hz	3200	5500A Console
480 pF @ 1000 Hz	3000	5500A Console
600 pF @ 1000 Hz	1600	5500A Console
1 nF @ 1000 Hz	1600	5500A Console
2 nF @ 1000 Hz	1200	5500A Console
7 nF @ 1000 Hz	1200	5500A Console
10.9 nF @ 1000 Hz	1000	5500A Console
20 nF @ 1000 Hz	1000	5500A Console
70 nF @ 1000 Hz	820	5500A Console
200 nF @ 1000 Hz	820	5500A Console
300 nF @ 1000 Hz	820	5500A Console
700 nF @ 100 Hz	820	5500A Console
2 μF @ 100 Hz	850	5500A Console

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FLUKE CORPORATION PRIMARY STANDARDS LABORATORY

3 μF @ 100 Hz	850	5500A Console
7 μF @ 100 Hz	850	5500A Console
10.9 μF @ 100 Hz	850	5500A Console
20 μF @ 100 Hz	850	5500A Console
30 μF @ 100 Hz	860	5500A Console
70 μF @ 100 Hz	900	5500A Console
200 μF @ 100 Hz	1500	5500A Console
300 μF @ 100 Hz	1550	5500A Console
330 μF @ 50 Hz	1700	5500A Console
1.1 mF @ 50 Hz	2400	5500A Console

NVLAP Code: 20/E10
Capacitance

Range	*Best Uncertainty (±) in ppm*$^{\text{note 1}}$	*Remarks*
190 pF @ 5000 Hz	2000	5520A Console
350 pF @ 1000 Hz	1800	5520A Console
480 pF @ 1000 Hz	1650	5520A Console

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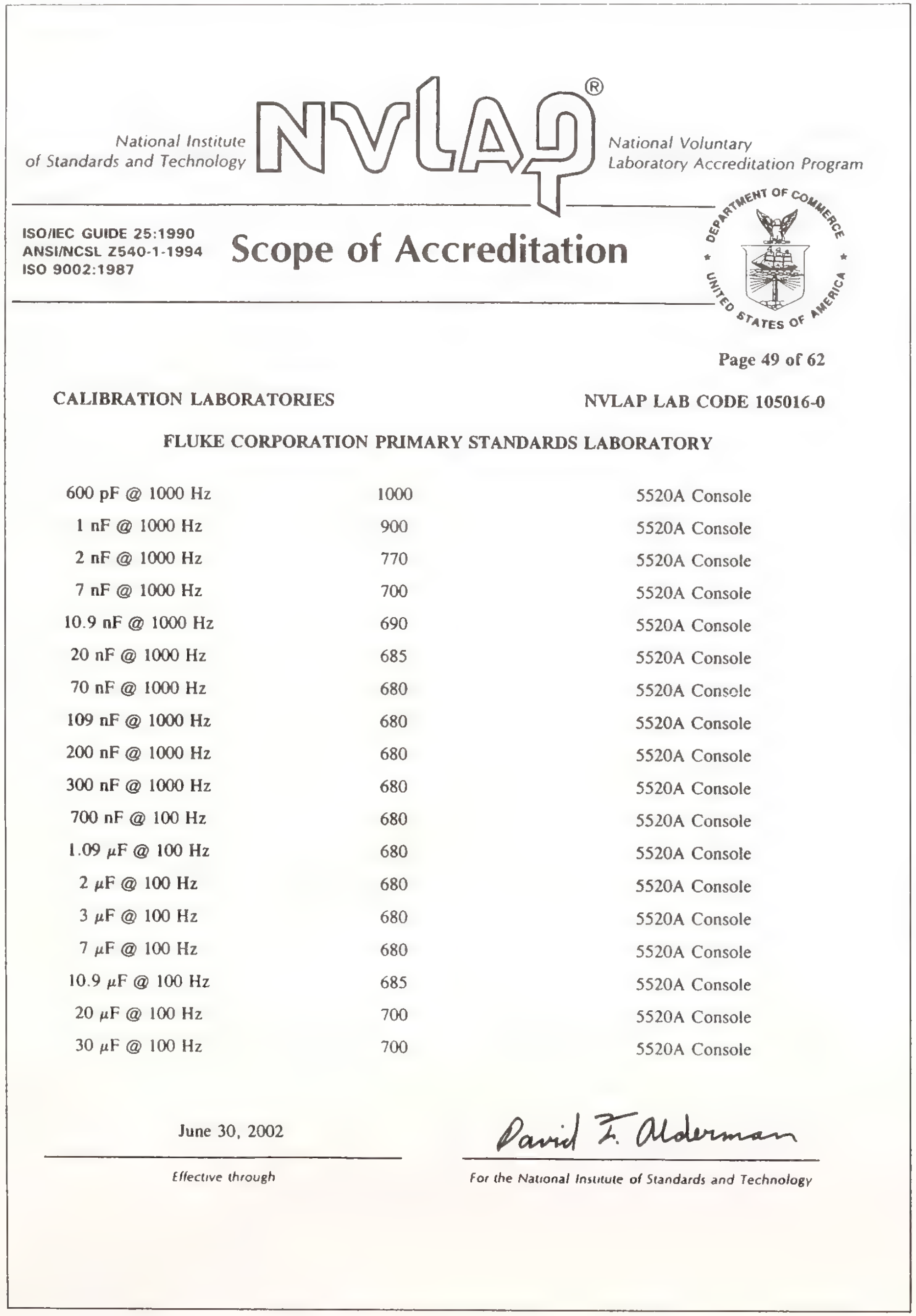

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FLUKE CORPORATION PRIMARY STANDARDS LABORATORY

600 pF @ 1000 Hz	1000	5520A Console
1 nF @ 1000 Hz	900	5520A Console
2 nF @ 1000 Hz	770	5520A Console
7 nF @ 1000 Hz	700	5520A Console
10.9 nF @ 1000 Hz	690	5520A Console
20 nF @ 1000 Hz	685	5520A Console
70 nF @ 1000 Hz	680	5520A Console
109 nF @ 1000 Hz	680	5520A Console
200 nF @ 1000 Hz	680	5520A Console
300 nF @ 1000 Hz	680	5520A Console
700 nF @ 100 Hz	680	5520A Console
1.09 μF @ 100 Hz	680	5520A Console
2 μF @ 100 Hz	680	5520A Console
3 μF @ 100 Hz	680	5520A Console
7 μF @ 100 Hz	680	5520A Console
10.9 μF @ 100 Hz	685	5520A Console
20 μF @ 100 Hz	700	5520A Console
30 μF @ 100 Hz	700	5520A Console

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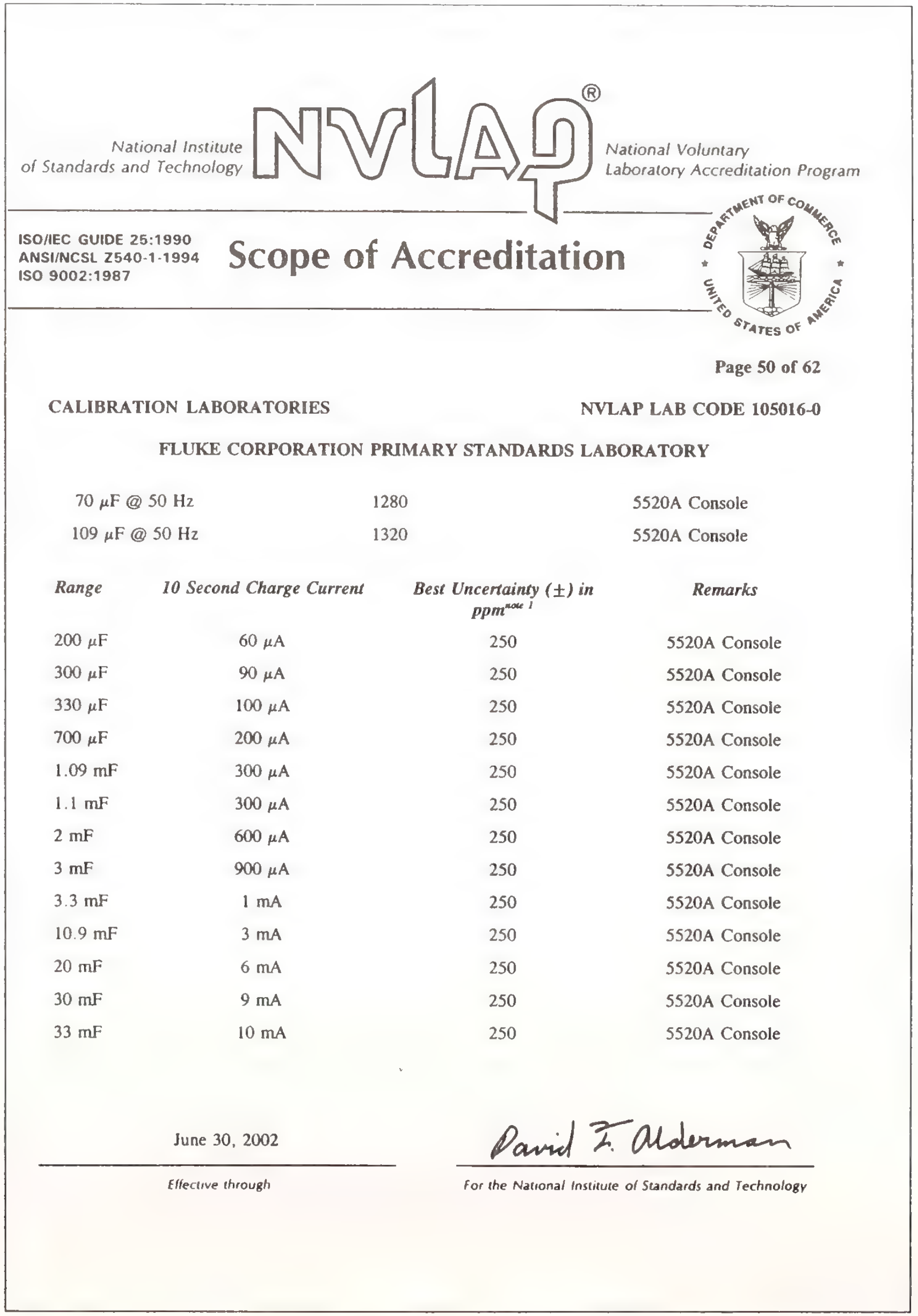

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FLUKE CORPORATION PRIMARY STANDARDS LABORATORY

70 μF @ 50 Hz	1280	5520A Console
109 μF @ 50 Hz	1320	5520A Console

Range	*10 Second Charge Current*	*Best Uncertainty (±) in ppm$^{note\ 1}$*	*Remarks*
200 μF	60 μA	250	5520A Console
300 μF	90 μA	250	5520A Console
330 μF	100 μA	250	5520A Console
700 μF	200 μA	250	5520A Console
1.09 mF	300 μA	250	5520A Console
1.1 mF	300 μA	250	5520A Console
2 mF	600 μA	250	5520A Console
3 mF	900 μA	250	5520A Console
3.3 mF	1 mA	250	5520A Console
10.9 mF	3 mA	250	5520A Console
20 mF	6 mA	250	5520A Console
30 mF	9 mA	250	5520A Console
33 mF	10 mA	250	5520A Console

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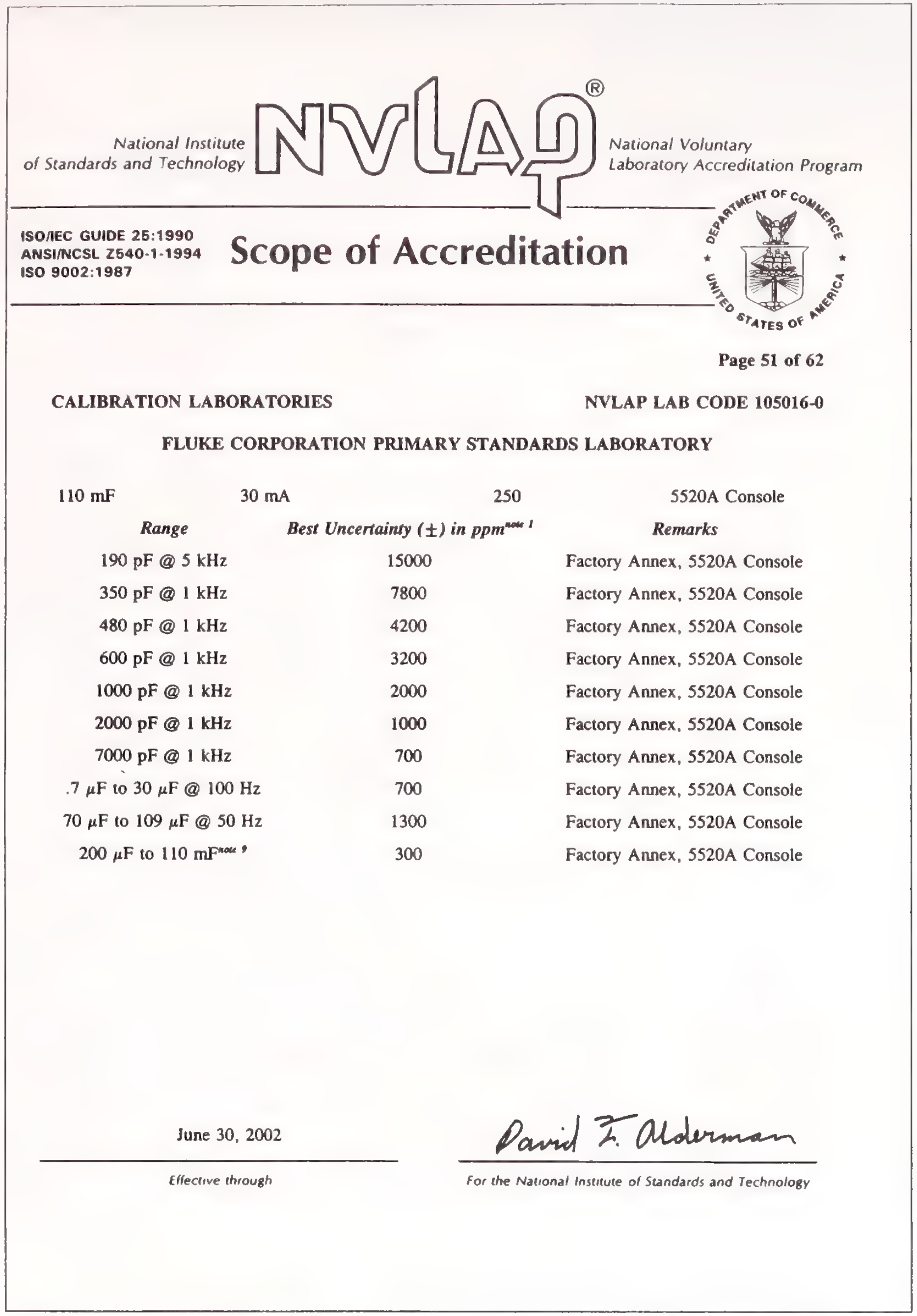

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FLUKE CORPORATION PRIMARY STANDARDS LABORATORY

110 mF	30 mA	250	5520A Console

Range	*Best Uncertainty (±) in ppm*$^{\text{note 1}}$	*Remarks*
190 pF @ 5 kHz	15000	Factory Annex, 5520A Console
350 pF @ 1 kHz	7800	Factory Annex, 5520A Console
480 pF @ 1 kHz	4200	Factory Annex, 5520A Console
600 pF @ 1 kHz	3200	Factory Annex, 5520A Console
1000 pF @ 1 kHz	2000	Factory Annex, 5520A Console
2000 pF @ 1 kHz	1000	Factory Annex, 5520A Console
7000 pF @ 1 kHz	700	Factory Annex, 5520A Console
.7 µF to 30 µF @ 100 Hz	700	Factory Annex, 5520A Console
70 µF to 109 µF @ 50 Hz	1300	Factory Annex, 5520A Console
200 µF to 110 mF$^{\text{note 9}}$	300	Factory Annex, 5520A Console

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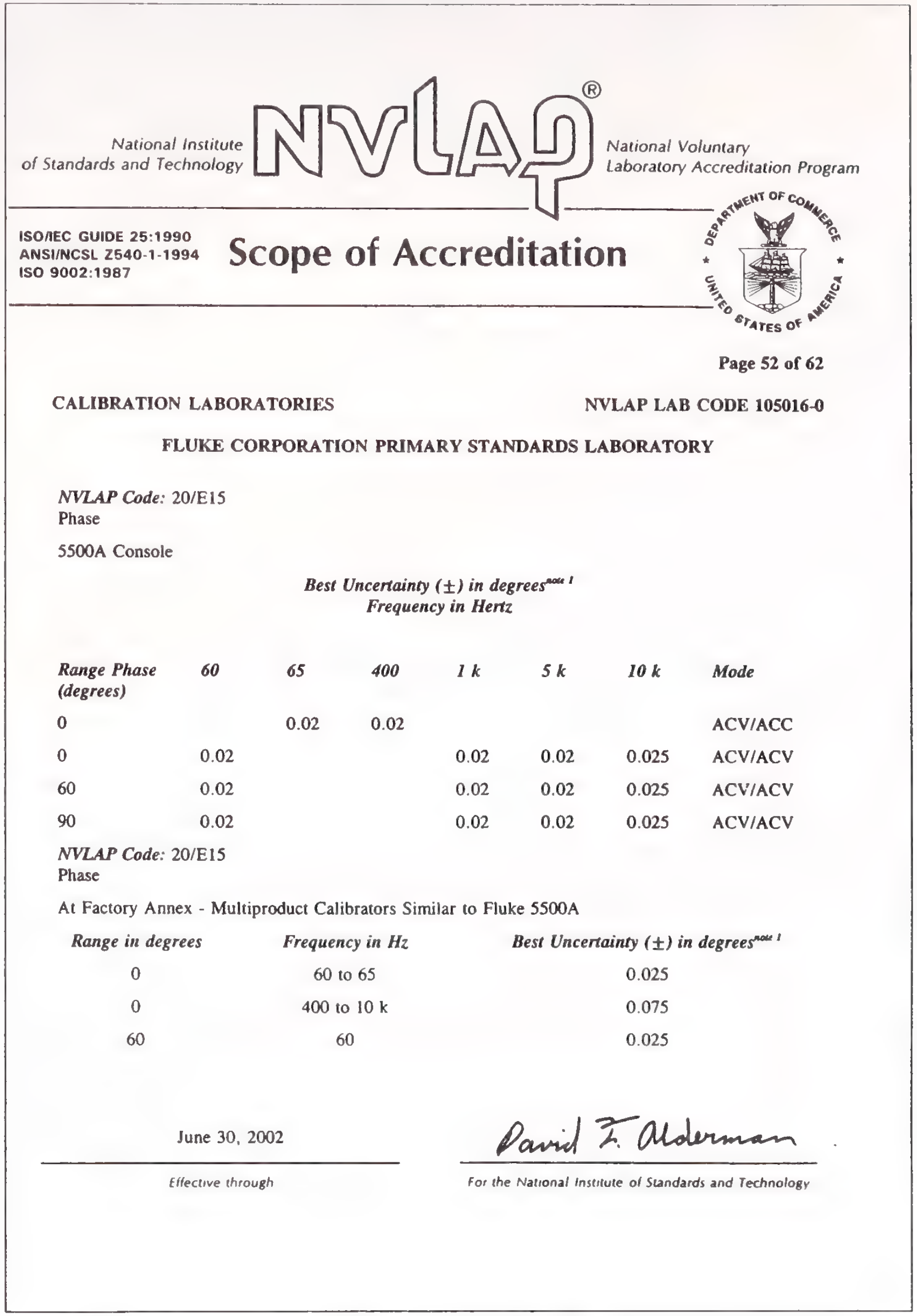

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FLUKE CORPORATION PRIMARY STANDARDS LABORATORY

NVLAP Code: 20/E15
Phase

5500A Console

Best Uncertainty (±) in degrees$^{\text{note 1}}$
Frequency in Hertz

Range Phase (degrees)	*60*	*65*	*400*	*1 k*	*5 k*	*10 k*	*Mode*
0		0.02	0.02				ACV/ACC
0	0.02			0.02	0.02	0.025	ACV/ACV
60	0.02			0.02	0.02	0.025	ACV/ACV
90	0.02			0.02	0.02	0.025	ACV/ACV

NVLAP Code: 20/E15
Phase

At Factory Annex - Multiproduct Calibrators Similar to Fluke 5500A

Range in degrees	*Frequency in Hz*	*Best Uncertainty (±) in degrees*$^{\text{note 1}}$
0	60 to 65	0.025
0	400 to 10 k	0.075
60	60	0.025

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FLUKE CORPORATION PRIMARY STANDARDS LABORATORY

60	400 to 10 k	0.075
90	60	0.025
90	400 to 10 k	0.075

5520 A Console

Range Phase (degrees)	*Reference Volts*	*Signal Amps*	*Frequency Hz*	*Best Uncertainty (±) in degrees*$^{\text{note 1}}$	*Remarks*
0	0.03	0.3	65	0.015	ACV/ACC
0	0.03	0.3	1 k	0.025	ACV/ACC
0	0.03	0.3	30 k	0.5	ACV/ACC
0	0.2	2	65	0.015	ACV/ACC
0	0.05	5	65	0.022	ACV/ACC
0	0.05	5	400	0.025	ACV/ACC
60	0.03	0.3	65	0.015	ACV/ACC
60	0.2	2	65	0.015	ACV/ACC
60	0.2	20	65	0.015	ACV/ACC
60	0.2	20	400	0.030	ACV/ACC
0	3.3	0.3	65	0.016	ACV/ACC

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FLUKE CORPORATION PRIMARY STANDARDS LABORATORY

0	3.3	2	65	0.020	ACV/ACC
0	3.3	5	65	0.016	ACV/ACC
0	3.3	5	400	0.030	ACV/ACC
90	3.3	0.3	65	0.020	ACV/ACC
90	3.3	2	65	0.018	ACV/ACC
90	3.3	20	65	0.018	ACV/ACC
90	3.3	20	400	0.030	ACV/ACC
0	33	0.3	65	0.020	ACV/ACC
0	33	2	65	0.018	ACV/ACC
0	33	5	65	0.016	ACV/ACC
0	33	5	400	0.030	ACV/ACC
90	33	0.3	65	0.018	ACV/ACC
90	33	2	65	0.022	ACV/ACC
90	33	20	65	0.023	ACV/ACC
90	33	20	400	0.030	ACV/ACC
0, 60, 90	3	3	65	0.015	ACV/ACV
0, 60, 90	3	3	400	0.020	ACV/ACV
0, 60, 90	3	3	1 k	0.020	ACV/ACV

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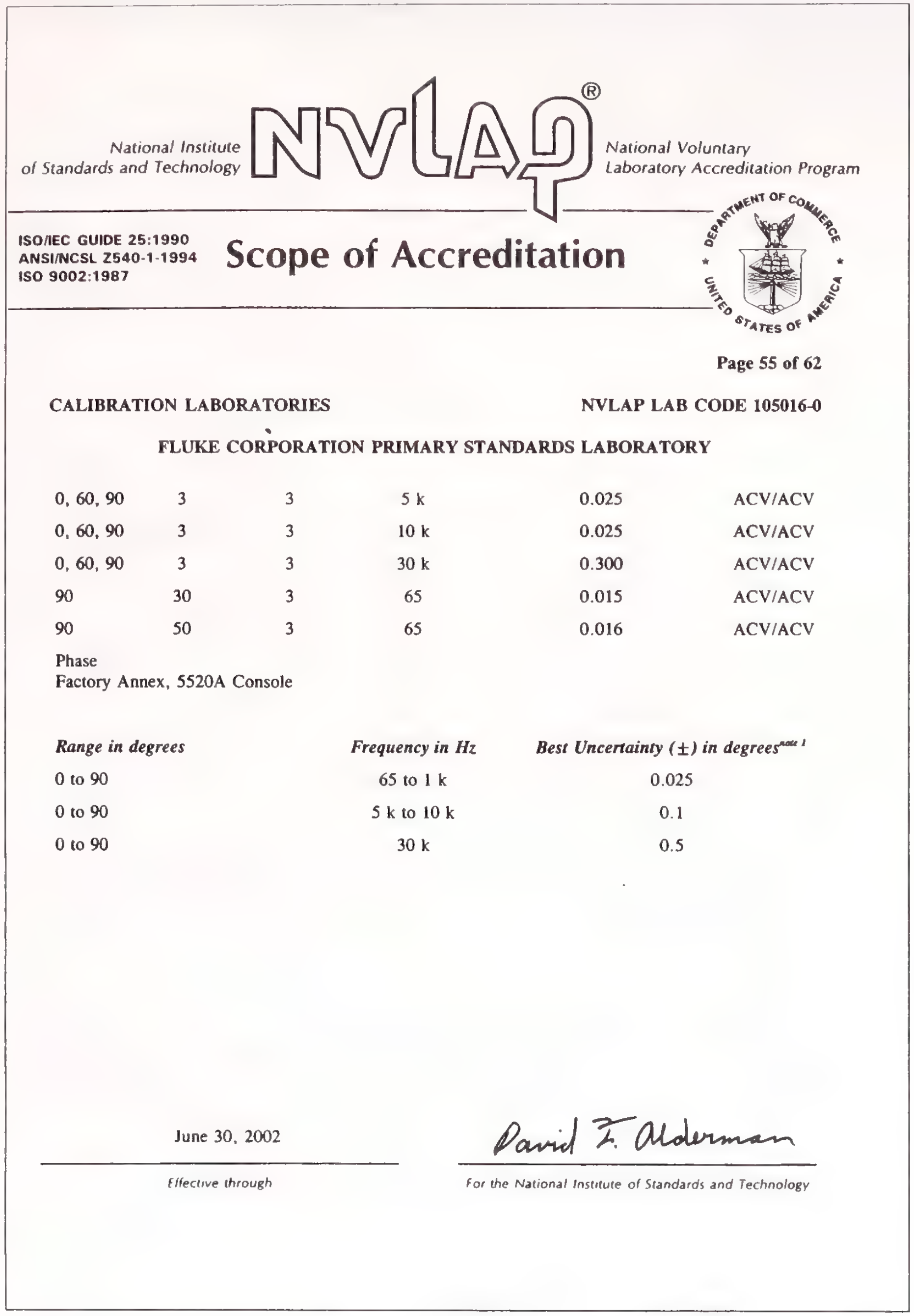

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0, 60, 90	3	3	5 k	0.025	ACV/ACV
0, 60, 90	3	3	10 k	0.025	ACV/ACV
0, 60, 90	3	3	30 k	0.300	ACV/ACV
90	30	3	65	0.015	ACV/ACV
90	50	3	65	0.016	ACV/ACV

Phase
Factory Annex, 5520A Console

Range in degrees	*Frequency in Hz*	*Best Uncertainty (±) in degrees*$^{\text{note 1}}$
0 to 90	65 to 1 k	0.025
0 to 90	5 k to 10 k	0.1
0 to 90	30 k	0.5

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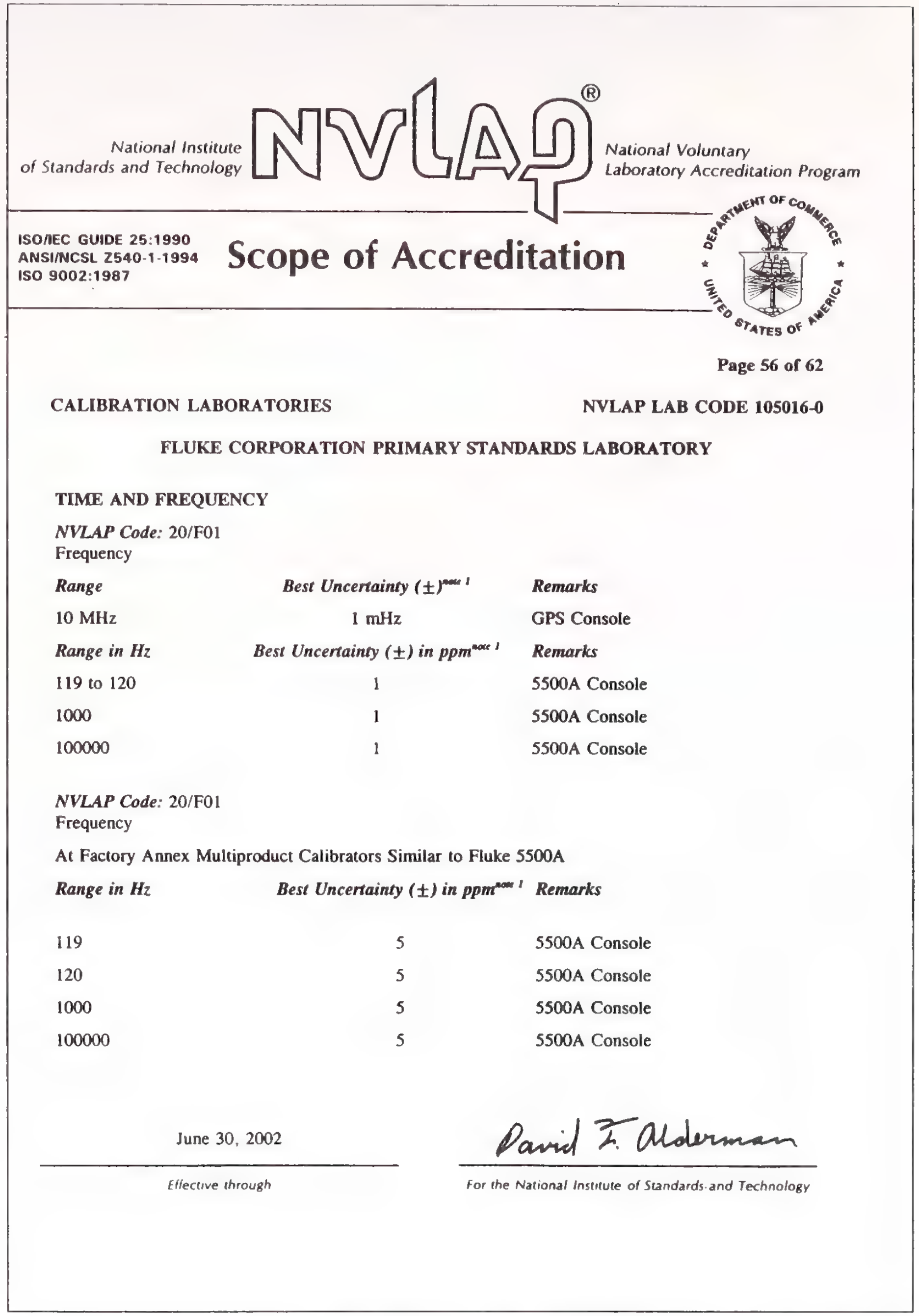

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FLUKE CORPORATION PRIMARY STANDARDS LABORATORY

TIME AND FREQUENCY

NVLAP Code: 20/F01
Frequency

Range	*Best Uncertainty (±)*$^{\text{note 1}}$	*Remarks*
10 MHz	1 mHz	GPS Console

Range in Hz	*Best Uncertainty (±) in ppm*$^{\text{note 1}}$	*Remarks*
119 to 120	1	5500A Console
1000	1	5500A Console
100000	1	5500A Console

NVLAP Code: 20/F01
Frequency

At Factory Annex Multiproduct Calibrators Similar to Fluke 5500A

Range in Hz	*Best Uncertainty (±) in ppm*$^{\text{note 1}}$	*Remarks*
119	5	5500A Console
120	5	5500A Console
1000	5	5500A Console
100000	5	5500A Console

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Frequency

Range in Hz	*Best Uncertainty (±) in ppm*$^{\text{note 1}}$	*Remarks*
119	0.10	5520A Console
120	0.10	5520A Console
1000	0.10	5520A Console
100000	0.10	5520A Console
119 to 100000 k	0.8	Factory Annex, 5520A Console

THERMODYNAMICS

NVLAP Code: 20/T03
Temperature

Range in °C	*Best Uncertainty (±) in mK*$^{\text{note 1}}$	*Remarks*
-40 to -197	11	
-1 to -40	8	
-1 to 1	5	
0.01	4.5	
1 to 150	10	

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FLUKE CORPORATION PRIMARY STANDARDS LABORATORY

150 to 350	15	

NVLAP Code: 20/T06
Thermocouple Temperature

Range in °C	*Best Uncertainty (±) in °C*$^{\text{note 1}}$	*Remarks*
Simulated TC Temperature with UUT Sourcing, 5500 Console Measuring		
0	0.03	10 μV/C Linear Mode, Voltage Simulates Temperature
100	0.03	10 μV/C Linear Mode, Voltage Simulates Temperature
-100	0.03	10 μV/C Linear Mode, Voltage Simulates Temperature
1000	0.04	10 μV/C Linear Mode, Voltage Simulates Temperature
-1000	0.04	10 μV/C Linear Mode, Voltage Simulates Temperature
10000	0.08	10 μV/C Linear Mode, Voltage Simulates Temperature
-10000	0.08	10 μV/C Linear Mode, Voltage Simulates Temperature

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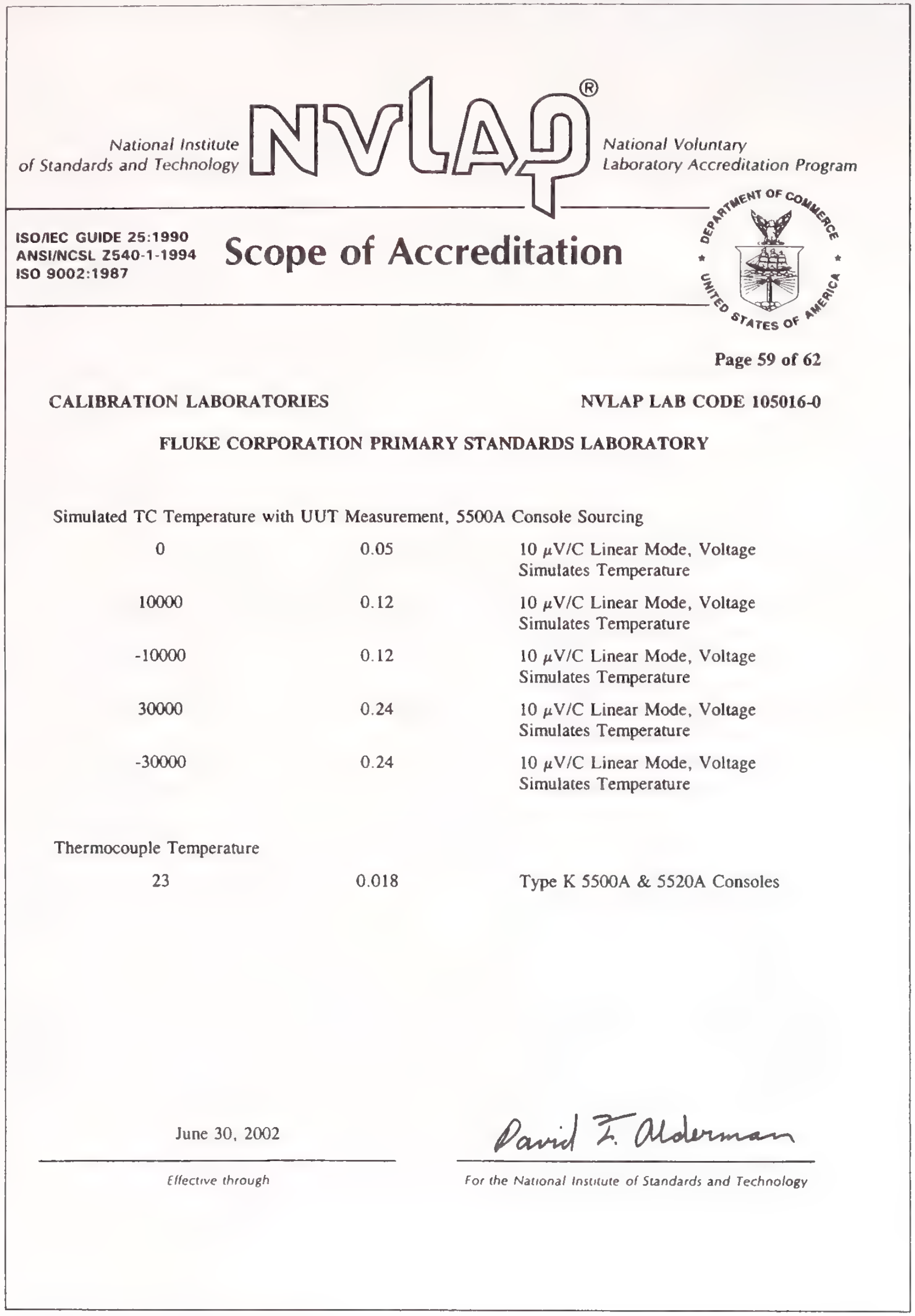

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FLUKE CORPORATION PRIMARY STANDARDS LABORATORY

Simulated TC Temperature with UUT Measurement, 5500A Console Sourcing

0	0.05	10 μV/C Linear Mode, Voltage Simulates Temperature
10000	0.12	10 μV/C Linear Mode, Voltage Simulates Temperature
-10000	0.12	10 μV/C Linear Mode, Voltage Simulates Temperature
30000	0.24	10 μV/C Linear Mode, Voltage Simulates Temperature
-30000	0.24	10 μV/C Linear Mode, Voltage Simulates Temperature

Thermocouple Temperature

23	0.018	Type K 5500A & 5520A Consoles

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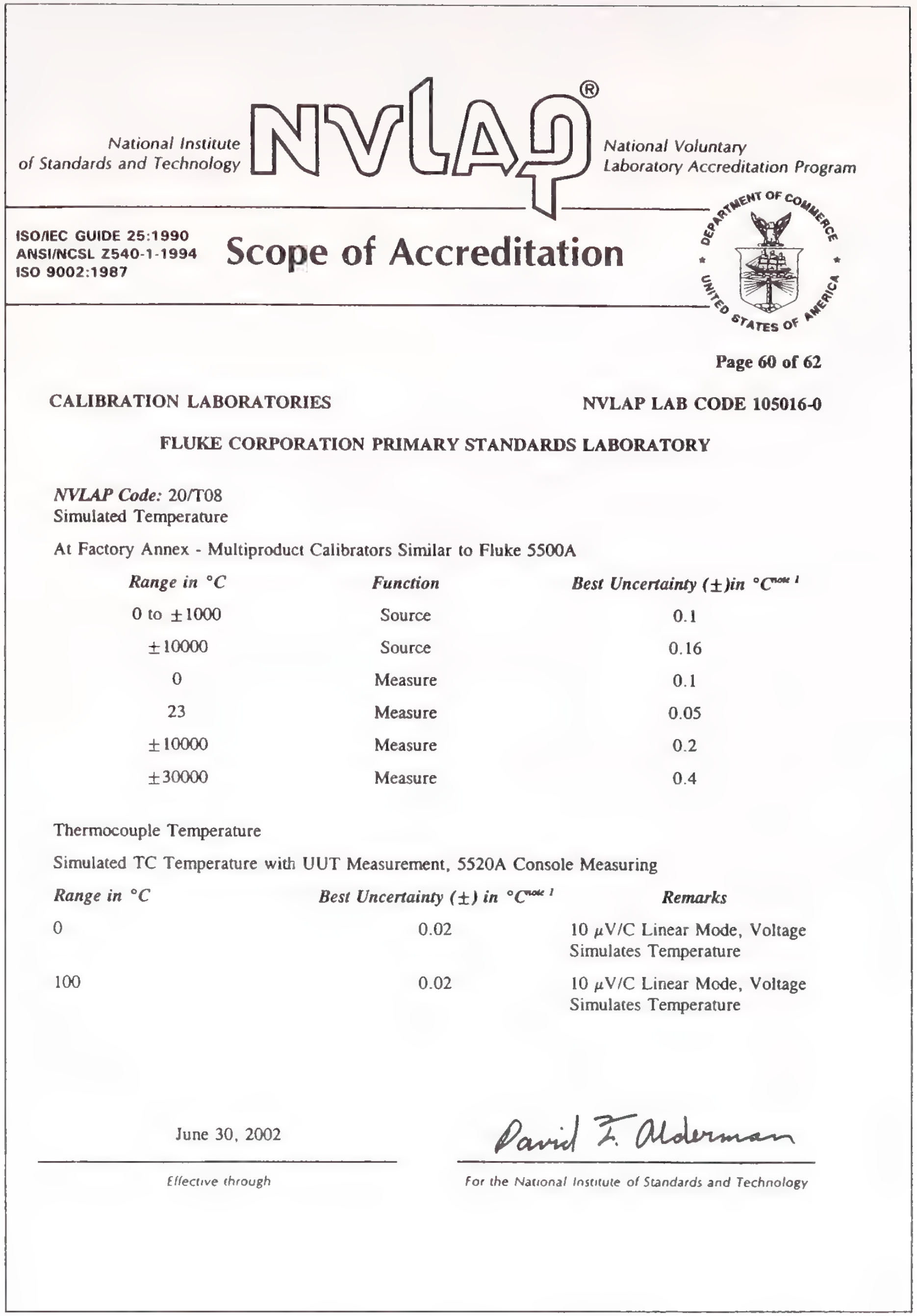

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FLUKE CORPORATION PRIMARY STANDARDS LABORATORY

NVLAP Code: 20/T08
Simulated Temperature

At Factory Annex - Multiproduct Calibrators Similar to Fluke 5500A

Range in °C	*Function*	*Best Uncertainty (±)in °C*$^{\text{note 1}}$
0 to ±1000	Source	0.1
±10000	Source	0.16
0	Measure	0.1
23	Measure	0.05
±10000	Measure	0.2
±30000	Measure	0.4

Thermocouple Temperature

Simulated TC Temperature with UUT Measurement, 5520A Console Measuring

Range in °C	*Best Uncertainty (±) in °C*$^{\text{note 1}}$	*Remarks*
0	0.02	10 μV/C Linear Mode, Voltage Simulates Temperature
100	0.02	10 μV/C Linear Mode, Voltage Simulates Temperature

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FLUKE CORPORATION PRIMARY STANDARDS LABORATORY

-100	0.02	10 μV/C Linear Mode, Voltage Simulates Temperature
1000	0.025	10 μV/C Linear Mode, Voltage Simulates Temperature
-1000	0.025	10 μV/C Linear Mode, Voltage Simulates Temperature
10000	0.07	10 μV/C Linear Mode, Voltage Simulates Temperature
-10000	0.07	10 μV/C Linear Mode, Voltage Simulates Temperature

Simulated TC Temperature with UUT Measurement, 5520A Console Sourcing

0	0.02	10 μV/C Linear Mode, Voltage Simulates Temperature
10000	0.12	10 μV/C Linear Mode, Voltage Simulates Temperature
-10000	0.12	10 μV/C Linear Mode, Voltage Simulates Temperature
30000	0.24	10 μV/C Linear Mode, Voltage Simulates Temperature

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FLUKE CORPORATION PRIMARY STANDARDS LABORATORY

-30000	0.24	10 μV/C Linear Mode, Voltage Simulates Temperature

Factory Annex, 5520A Console

Range in °C	*Function*	*Best Uncertainty (±) in °C*$^{note\ 1}$
0 to ±1000	Source	0.06
±10000	Source	0.1
0, 23	Measure	0.04
±10000	Measure	0.15
±30000	Measure	0.25

---

1. Represents an expanded uncertainty at a level of confidence of 99%; coverage factor *k* is determined by the test statistics.
2. Approximate value. Actual value determined by the test statistics.
3. E = Actual Voltage.
4. 1000 V Limit is 8 kHz.
5. 500 kHz @ 0.33 V
6. 90 kHz @ 30 V
7. 18 kHz @ 300 V, 8 kHz for voltage > = 1000 V
8. 5 kHz @ 1000 V
9. Above 200 μF the method of calibration is a charge technique with charge currents ranging from 60 μA at 200 μF to 30 mA at 110 mF.

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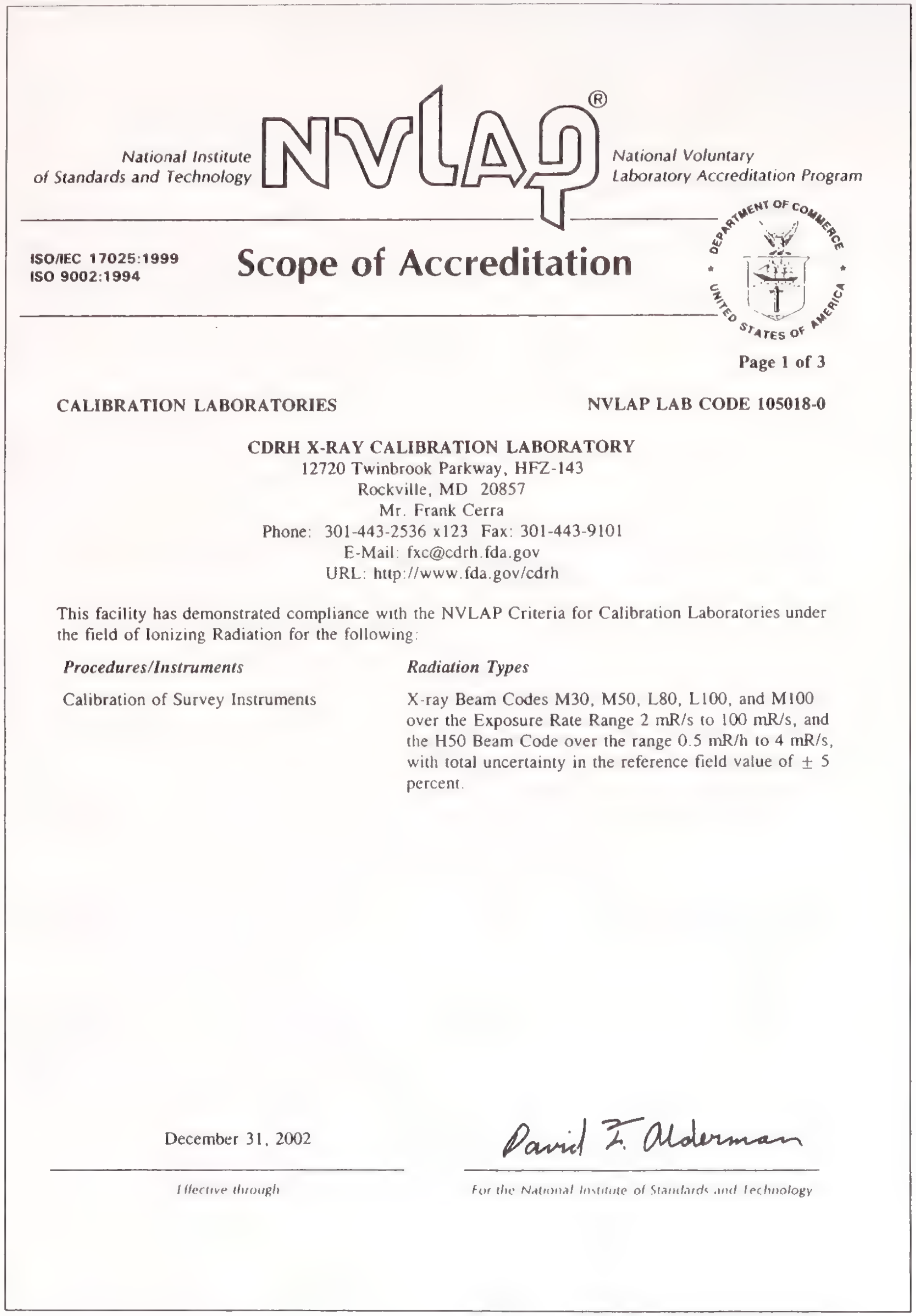

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CALIBRATION LABORATORIES NVLAP LAB CODE 105018-0

CDRH X-RAY CALIBRATION LABORATORY
12720 Twinbrook Parkway, HFZ-143
Rockville, MD 20857
Mr. Frank Cerra
Phone: 301-443-2536 x123 Fax: 301-443-9101
E-Mail: fxc@cdrh.fda.gov
URL: http://www.fda.gov/cdrh

This facility has demonstrated compliance with the NVLAP Criteria for Calibration Laboratories under the field of Ionizing Radiation for the following:

Procedures/Instruments	***Radiation Types***
Calibration of Survey Instruments	X-ray Beam Codes M30, M50, L80, L100, and M100 over the Exposure Rate Range 2 mR/s to 100 mR/s, and the H50 Beam Code over the range 0.5 mR/h to 4 mR/s, with total uncertainty in the reference field value of ± 5 percent.

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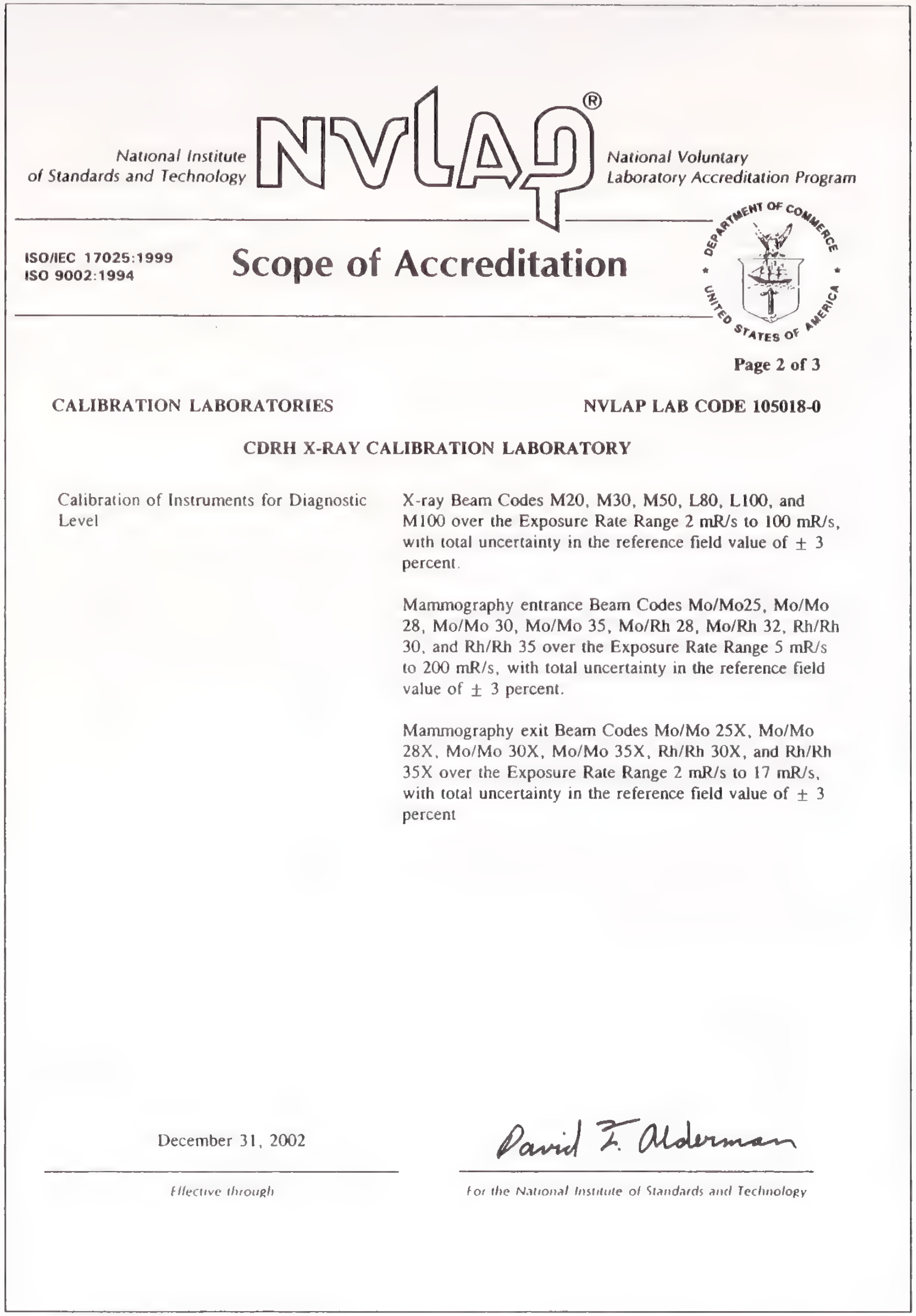

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CALIBRATION LABORATORIES NVLAP LAB CODE 105018-0

CDRH X-RAY CALIBRATION LABORATORY

Calibration of Instruments for Diagnostic Level	X-ray Beam Codes M20, M30, M50, L80, L100, and M100 over the Exposure Rate Range 2 mR/s to 100 mR/s, with total uncertainty in the reference field value of ± 3 percent. Mammography entrance Beam Codes Mo/Mo25, Mo/Mo 28, Mo/Mo 30, Mo/Mo 35, Mo/Rh 28, Mo/Rh 32, Rh/Rh 30, and Rh/Rh 35 over the Exposure Rate Range 5 mR/s to 200 mR/s, with total uncertainty in the reference field value of ± 3 percent. Mammography exit Beam Codes Mo/Mo 25X, Mo/Mo 28X, Mo/Mo 30X, Mo/Mo 35X, Rh/Rh 30X, and Rh/Rh 35X over the Exposure Rate Range 2 mR/s to 17 mR/s, with total uncertainty in the reference field value of ± 3 percent

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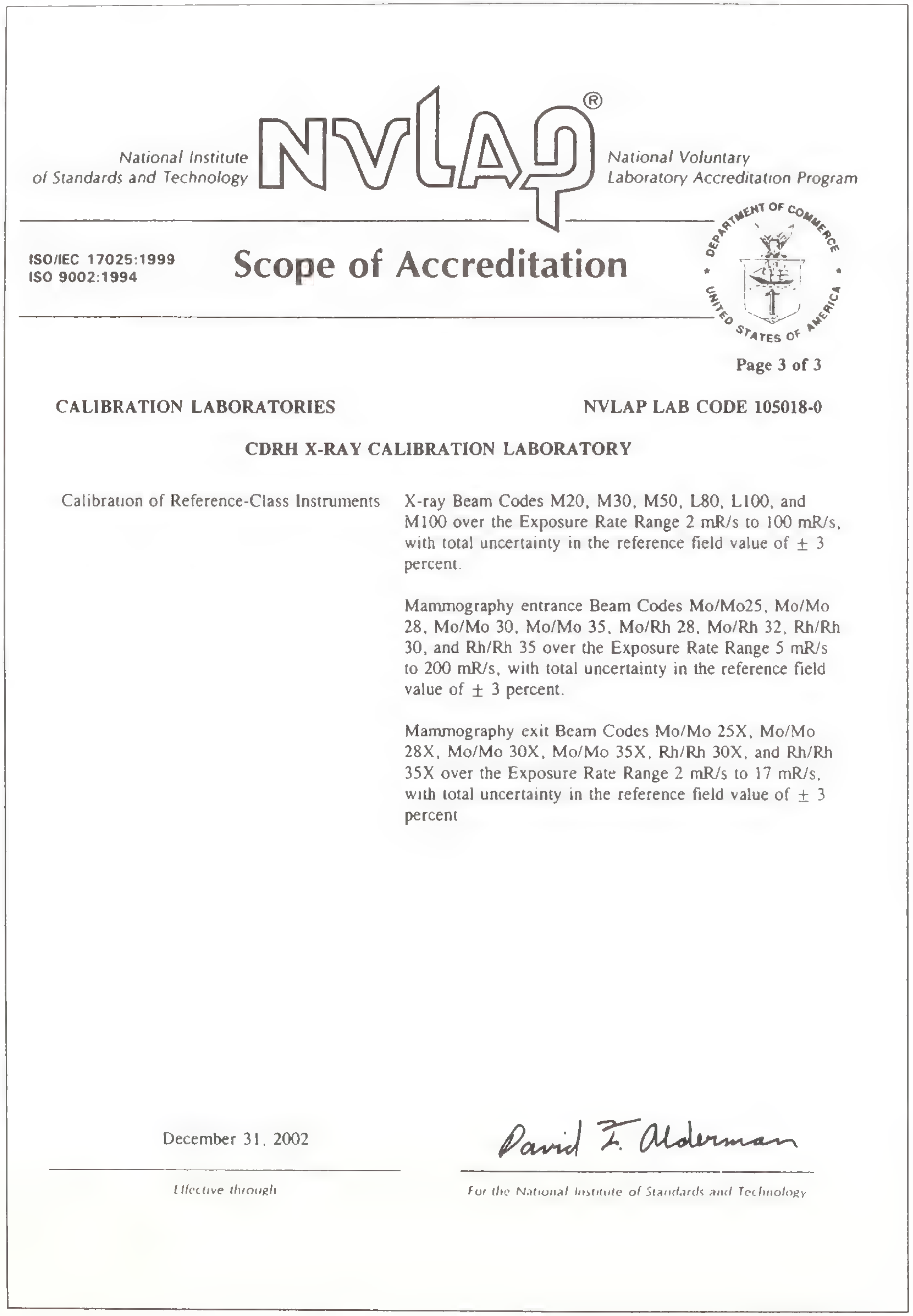

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CDRH X-RAY CALIBRATION LABORATORY

Calibration of Reference-Class Instruments	X-ray Beam Codes M20, M30, M50, L80, L100, and M100 over the Exposure Rate Range 2 mR/s to 100 mR/s, with total uncertainty in the reference field value of ± 3 percent.
	Mammography entrance Beam Codes Mo/Mo25, Mo/Mo 28, Mo/Mo 30, Mo/Mo 35, Mo/Rh 28, Mo/Rh 32, Rh/Rh 30, and Rh/Rh 35 over the Exposure Rate Range 5 mR/s to 200 mR/s, with total uncertainty in the reference field value of ± 3 percent.
	Mammography exit Beam Codes Mo/Mo 25X, Mo/Mo 28X, Mo/Mo 30X, Mo/Mo 35X, Rh/Rh 30X, and Rh/Rh 35X over the Exposure Rate Range 2 mR/s to 17 mR/s, with total uncertainty in the reference field value of ± 3 percent

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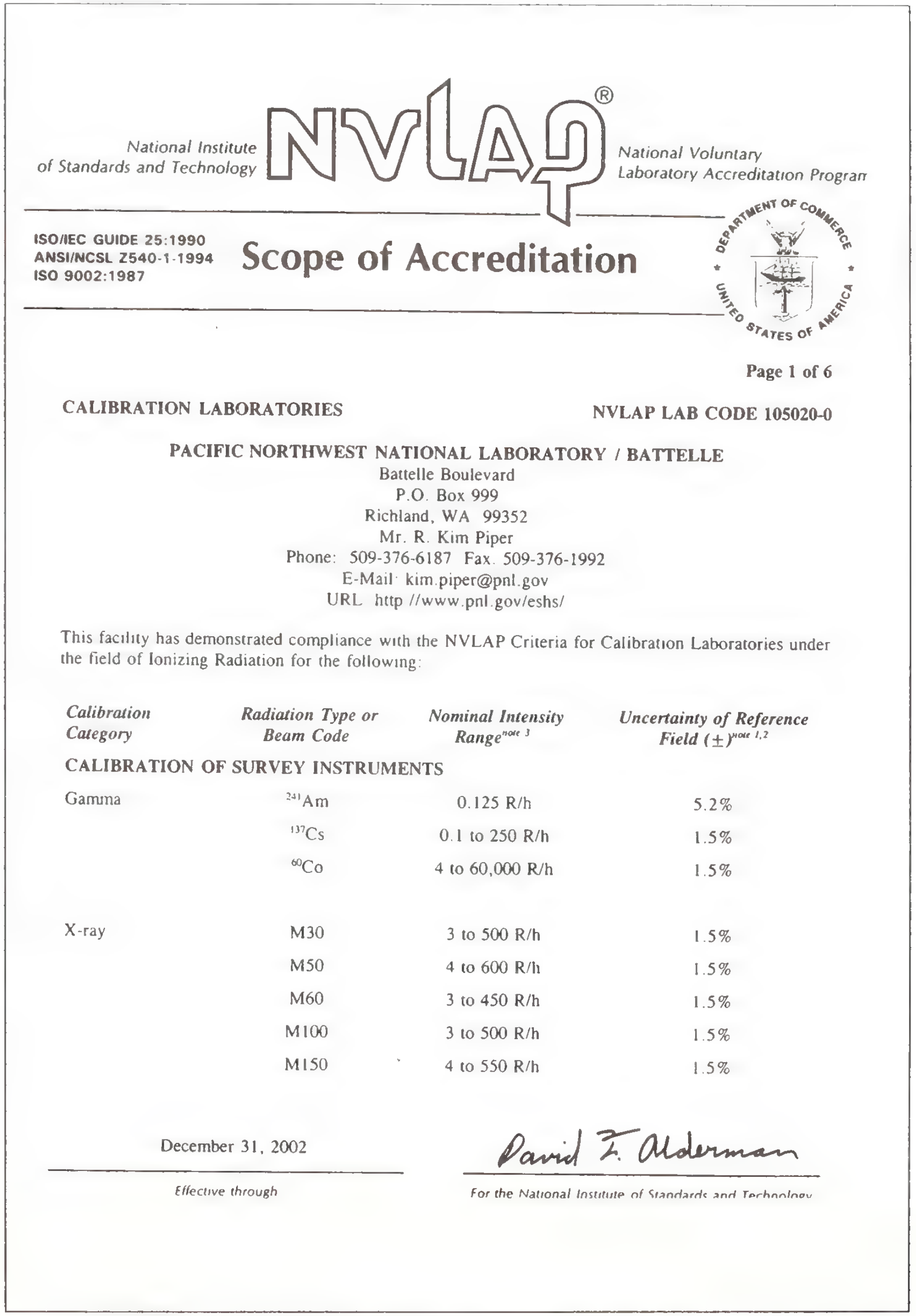

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CALIBRATION LABORATORIES **NVLAP LAB CODE 105020-0**

PACIFIC NORTHWEST NATIONAL LABORATORY / BATTELLE
Battelle Boulevard
P.O. Box 999
Richland, WA 99352
Mr. R. Kim Piper
Phone: 509-376-6187 Fax. 509-376-1992
E-Mail: kim.piper@pnl.gov
URL: http://www.pnl.gov/eshs/

This facility has demonstrated compliance with the NVLAP Criteria for Calibration Laboratories under the field of Ionizing Radiation for the following:

Calibration Category	*Radiation Type or Beam Code*	*Nominal Intensity Range*$^{note\ 3}$	*Uncertainty of Reference Field (±)*$^{note\ 1,2}$
CALIBRATION OF SURVEY INSTRUMENTS			
Gamma	^{241}Am	0.125 R/h	5.2%
	^{137}Cs	0.1 to 250 R/h	1.5%
	^{60}Co	4 to 60,000 R/h	1.5%
X-ray	M30	3 to 500 R/h	1.5%
	M50	4 to 600 R/h	1.5%
	M60	3 to 450 R/h	1.5%
	M100	3 to 500 R/h	1.5%
	M150	4 to 550 R/h	1.5%

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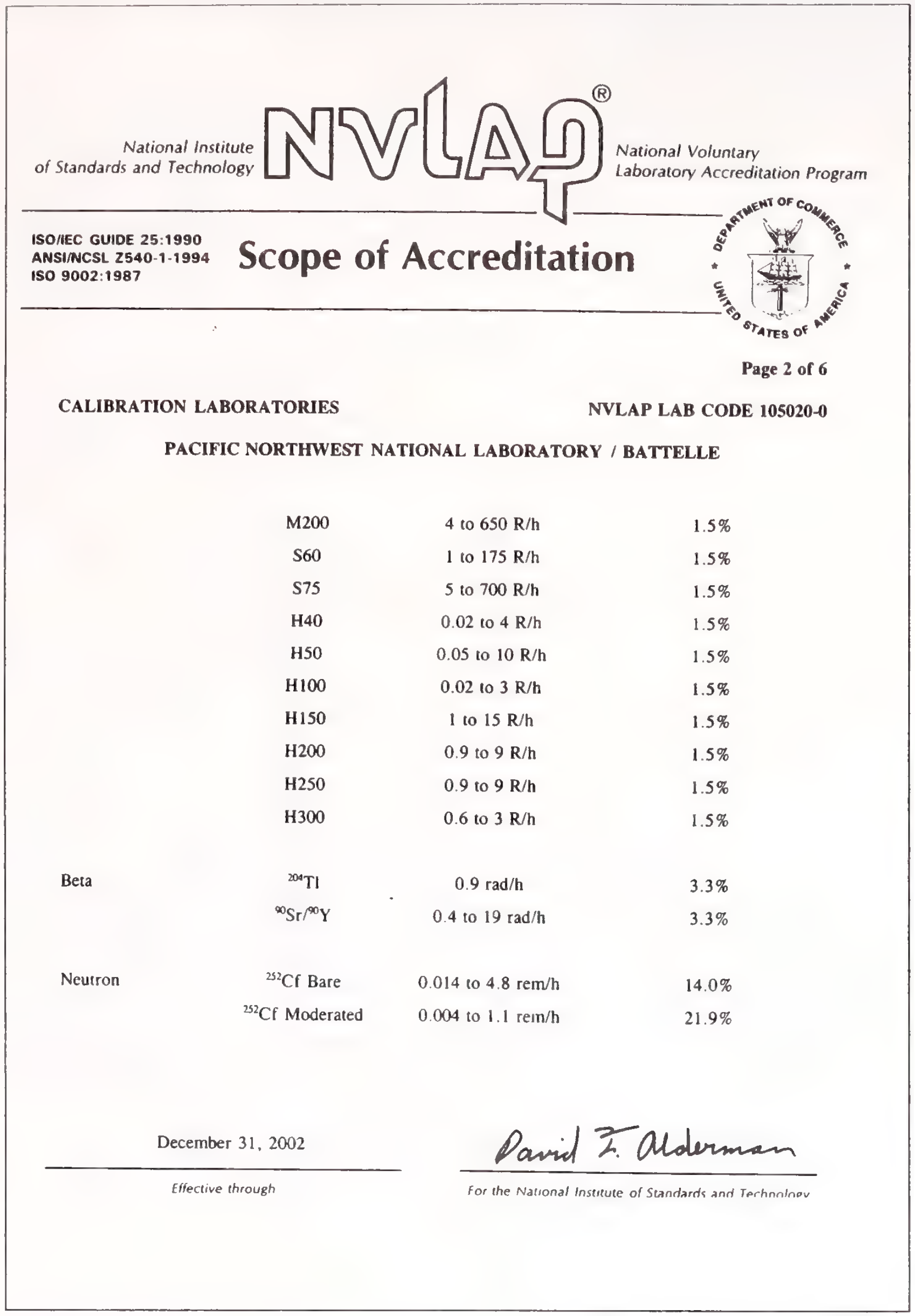

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CALIBRATION LABORATORIES **NVLAP LAB CODE 105020-0**

PACIFIC NORTHWEST NATIONAL LABORATORY / BATTELLE

	M200	4 to 650 R/h	1.5%
	S60	1 to 175 R/h	1.5%
	S75	5 to 700 R/h	1.5%
	H40	0.02 to 4 R/h	1.5%
	H50	0.05 to 10 R/h	1.5%
	H100	0.02 to 3 R/h	1.5%
	H150	1 to 15 R/h	1.5%
	H200	0.9 to 9 R/h	1.5%
	H250	0.9 to 9 R/h	1.5%
	H300	0.6 to 3 R/h	1.5%
Beta	^{204}Tl	0.9 rad/h	3.3%
	^{90}Sr/^{90}Y	0.4 to 19 rad/h	3.3%
Neutron	^{252}Cf Bare	0.014 to 4.8 rem/h	14.0%
	^{252}Cf Moderated	0.004 to 1.1 rem/h	21.9%

December 31, 2002
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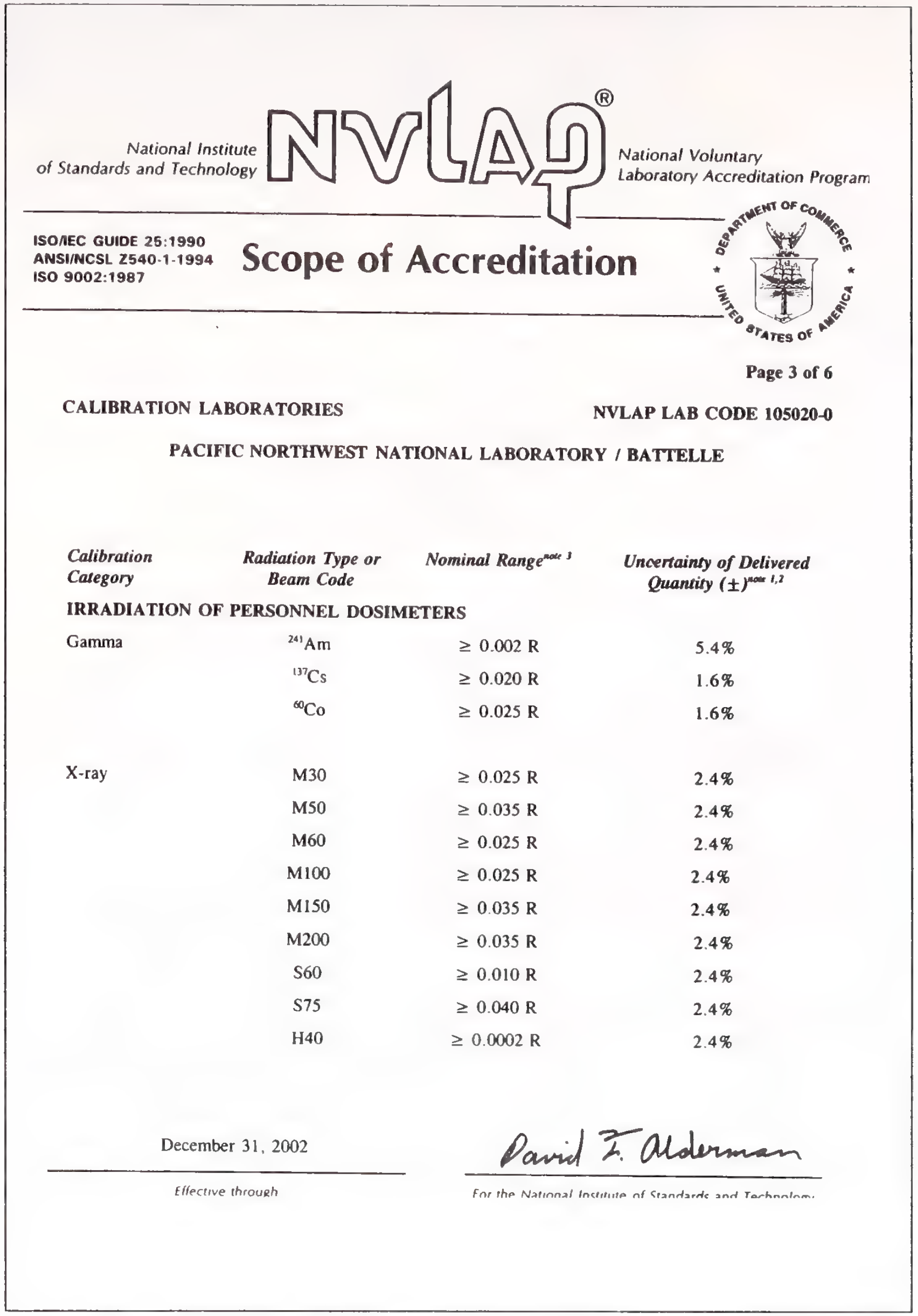

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CALIBRATION LABORATORIES **NVLAP LAB CODE 105020-0**

PACIFIC NORTHWEST NATIONAL LABORATORY / BATTELLE

Calibration Category	*Radiation Type or Beam Code*	*Nominal Range*[note 3]	*Uncertainty of Delivered Quantity (±)*[note 1,2]
IRRADIATION OF PERSONNEL DOSIMETERS			
Gamma	^{241}Am	≥ 0.002 R	5.4%
	^{137}Cs	≥ 0.020 R	1.6%
	^{60}Co	≥ 0.025 R	1.6%
X-ray	M30	≥ 0.025 R	2.4%
	M50	≥ 0.035 R	2.4%
	M60	≥ 0.025 R	2.4%
	M100	≥ 0.025 R	2.4%
	M150	≥ 0.035 R	2.4%
	M200	≥ 0.035 R	2.4%
	S60	≥ 0.010 R	2.4%
	S75	≥ 0.040 R	2.4%
	H40	≥ 0.0002 R	2.4%

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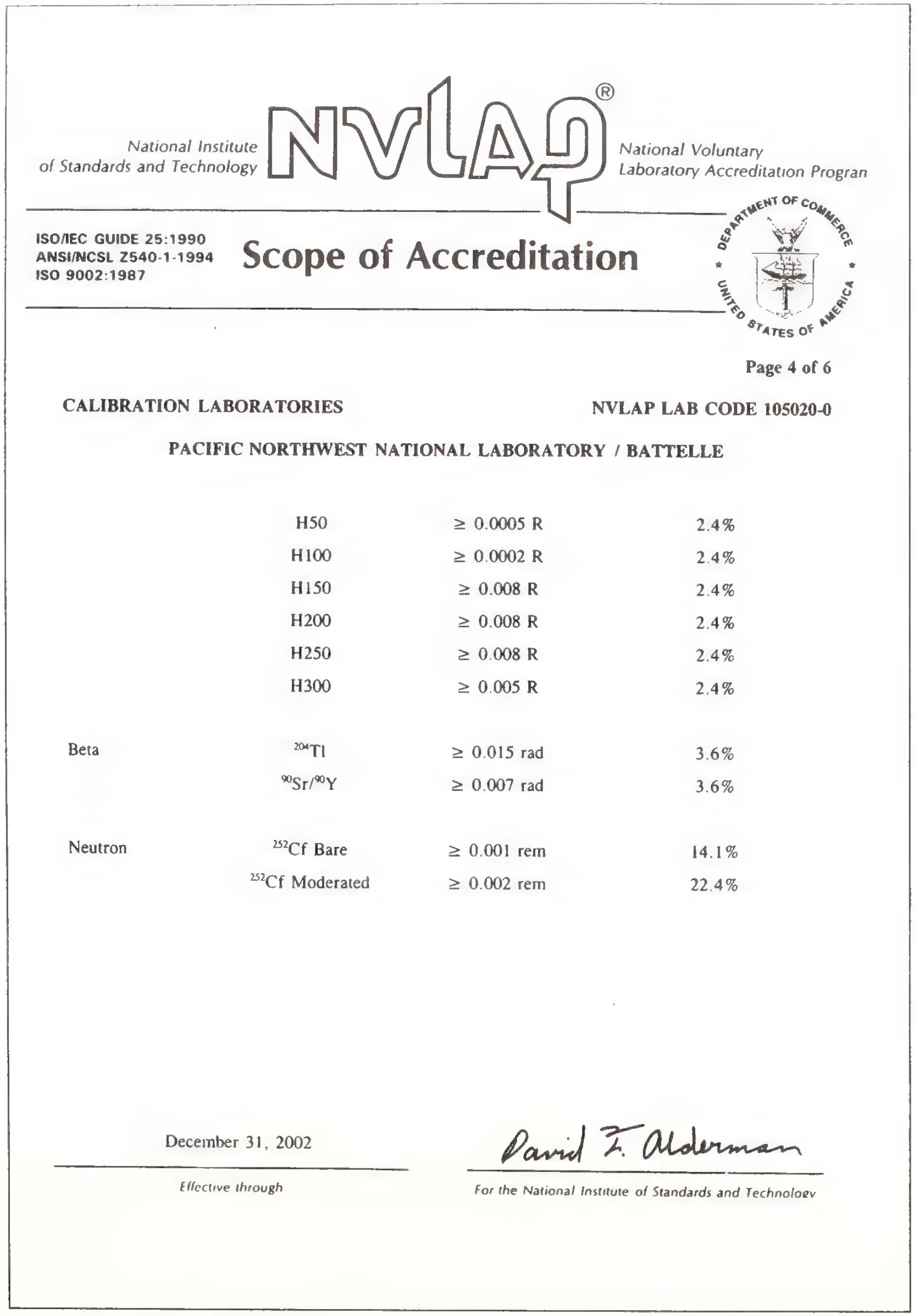

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PACIFIC NORTHWEST NATIONAL LABORATORY / BATTELLE

	H50	≥ 0.0005 R	2.4%
	H100	≥ 0.0002 R	2.4%
	H150	≥ 0.008 R	2.4%
	H200	≥ 0.008 R	2.4%
	H250	≥ 0.008 R	2.4%
	H300	≥ 0.005 R	2.4%
Beta	^{204}Tl	≥ 0.015 rad	3.6%
	^{90}Sr/^{90}Y	≥ 0.007 rad	3.6%
Neutron	^{252}Cf Bare	≥ 0.001 rem	14.1%
	^{252}Cf Moderated	≥ 0.002 rem	22.4%

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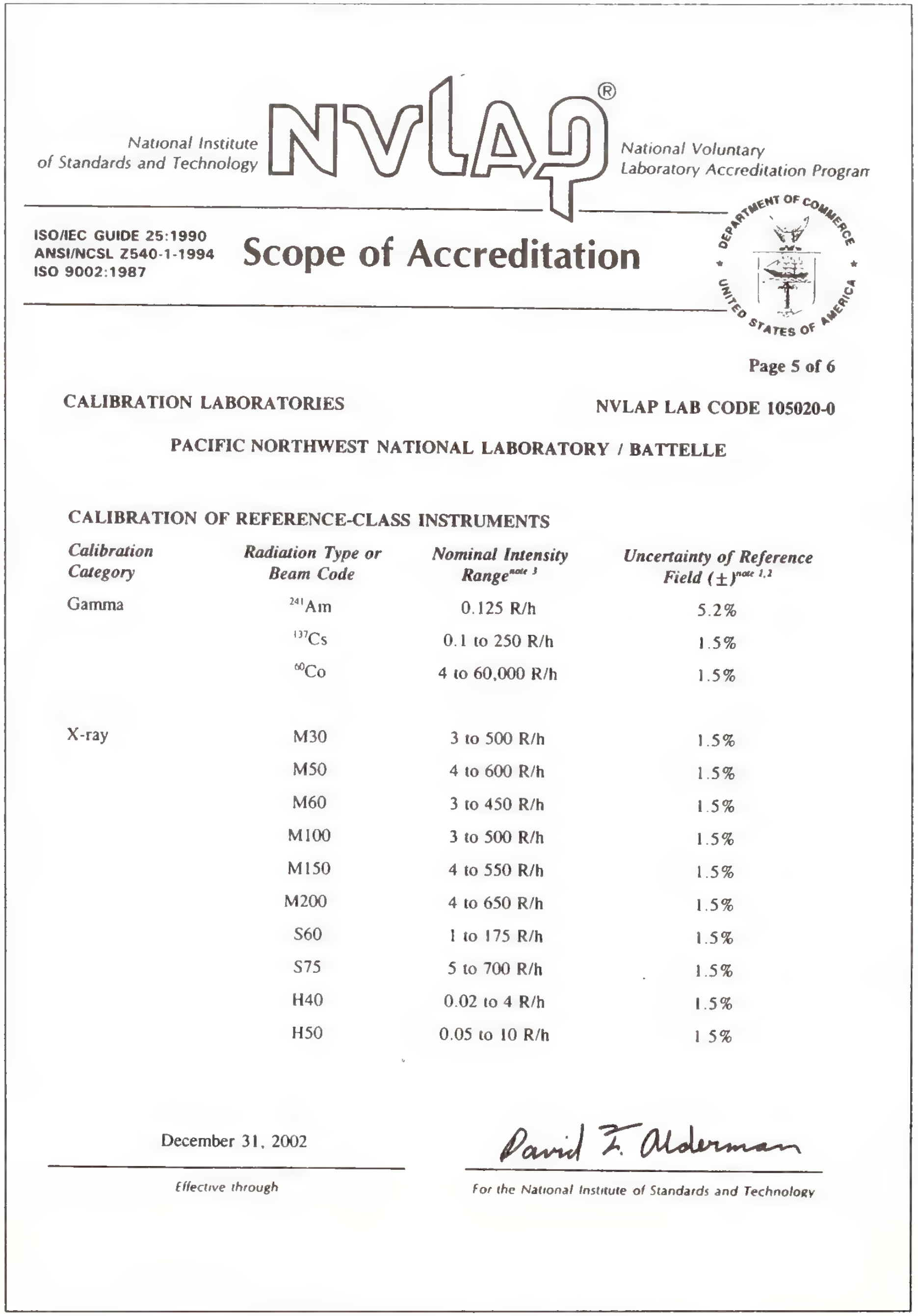

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PACIFIC NORTHWEST NATIONAL LABORATORY / BATTELLE

CALIBRATION OF REFERENCE-CLASS INSTRUMENTS

Calibration Category	*Radiation Type or Beam Code*	*Nominal Intensity Range*$^{note\ 3}$	*Uncertainty of Reference Field (±)*$^{note\ 1,2}$
Gamma	^{241}Am	0.125 R/h	5.2%
	^{137}Cs	0.1 to 250 R/h	1.5%
	^{60}Co	4 to 60,000 R/h	1.5%
X-ray	M30	3 to 500 R/h	1.5%
	M50	4 to 600 R/h	1.5%
	M60	3 to 450 R/h	1.5%
	M100	3 to 500 R/h	1.5%
	M150	4 to 550 R/h	1.5%
	M200	4 to 650 R/h	1.5%
	S60	1 to 175 R/h	1.5%
	S75	5 to 700 R/h	1.5%
	H40	0.02 to 4 R/h	1.5%
	H50	0.05 to 10 R/h	1.5%

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PACIFIC NORTHWEST NATIONAL LABORATORY / BATTELLE

	H100	0.02 to 3 R/h	1.5%
	H150	1 to 15 R/h	1.5%
	H200	0.9 to 9 R/h	1.5%
	H250	0.9 to 9 R/h	1.5%
	H300	0.6 to 3 R/h	1.5%
Beta	^{204}Tl	0.9 rad/h	3.3%
	^{90}Sr/^{90}Y	0.4 to 19 rad/h	3.3%
Neutron	^{252}Cf Bare	0.014 to 4.8 rad/h	14.0%
	^{252}Cf Moderated	0.004 to 1.1 rad/h	21.9%

---

1. Values listed at the 95% confidence level.
2. Uncertainties are valid for nominal intensity range listed.
3. For calibration outside of the nominal intensity range shown, uncertainties would be determined commensurate with the parameters of the reference field calibration.

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CALIBRATION LABORATORIES **NVLAP LAB CODE 105023-0**

INSTRON FORCE CALIBRATION LABORATORY
100 Royall Street
Canton, MA 02021
Dr. Anatoly Perlov
Phone: 781-575-5479 Fax: 781-575-5767
E-Mail: Anatoly_Perlov@instron.com
URL: http://www.instron.com

MECHANICAL

NVLAP Code: 20/M06
Force

Range	*Best Uncertainty* (±)$^{notes\ 1,2,3}$	*Remarks*
Applied Force in Pounds		
0.1 to 130000	0.005%	Primary Standard
130000 to 240000	0.005%	Secondary Standard

---

1. Represents an expanded uncertainty using a coverage factor, k=2.
2. Uncertainty of the voltage ratio is <0.1 microvolt per volt.
3. Uncertainty of the measured value is determined by the statistics of the test and the artifact tested but are typically better than ±0.05% for class AA instruments, ±0.25% for class A instruments and ±0.1% for class A1 instruments.

September 30, 2002
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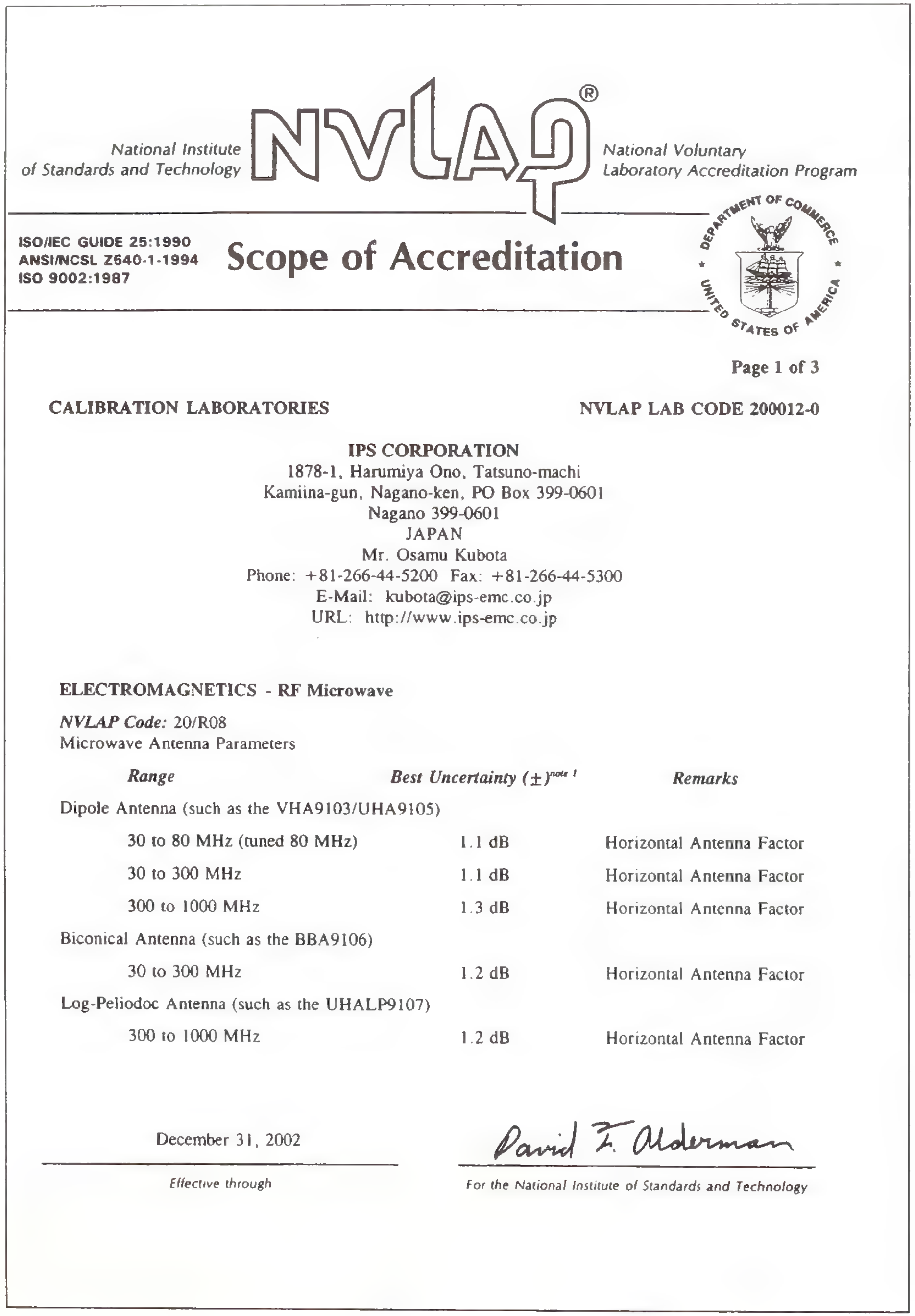

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CALIBRATION LABORATORIES **NVLAP LAB CODE 200012-0**

IPS CORPORATION
1878-1, Harumiya Ono, Tatsuno-machi
Kamiina-gun, Nagano-ken, PO Box 399-0601
Nagano 399-0601
JAPAN
Mr. Osamu Kubota
Phone: +81-266-44-5200 Fax: +81-266-44-5300
E-Mail: kubota@ips-emc.co.jp
URL: http://www.ips-emc.co.jp

ELECTROMAGNETICS - RF Microwave

NVLAP Code: 20/R08
Microwave Antenna Parameters

Range	***Best Uncertainty (±)***[note 1]	***Remarks***
Dipole Antenna (such as the VHA9103/UHA9105)		
30 to 80 MHz (tuned 80 MHz)	1.1 dB	Horizontal Antenna Factor
30 to 300 MHz	1.1 dB	Horizontal Antenna Factor
300 to 1000 MHz	1.3 dB	Horizontal Antenna Factor
Biconical Antenna (such as the BBA9106)		
30 to 300 MHz	1.2 dB	Horizontal Antenna Factor
Log-Peliodoc Antenna (such as the UHALP9107)		
300 to 1000 MHz	1.2 dB	Horizontal Antenna Factor

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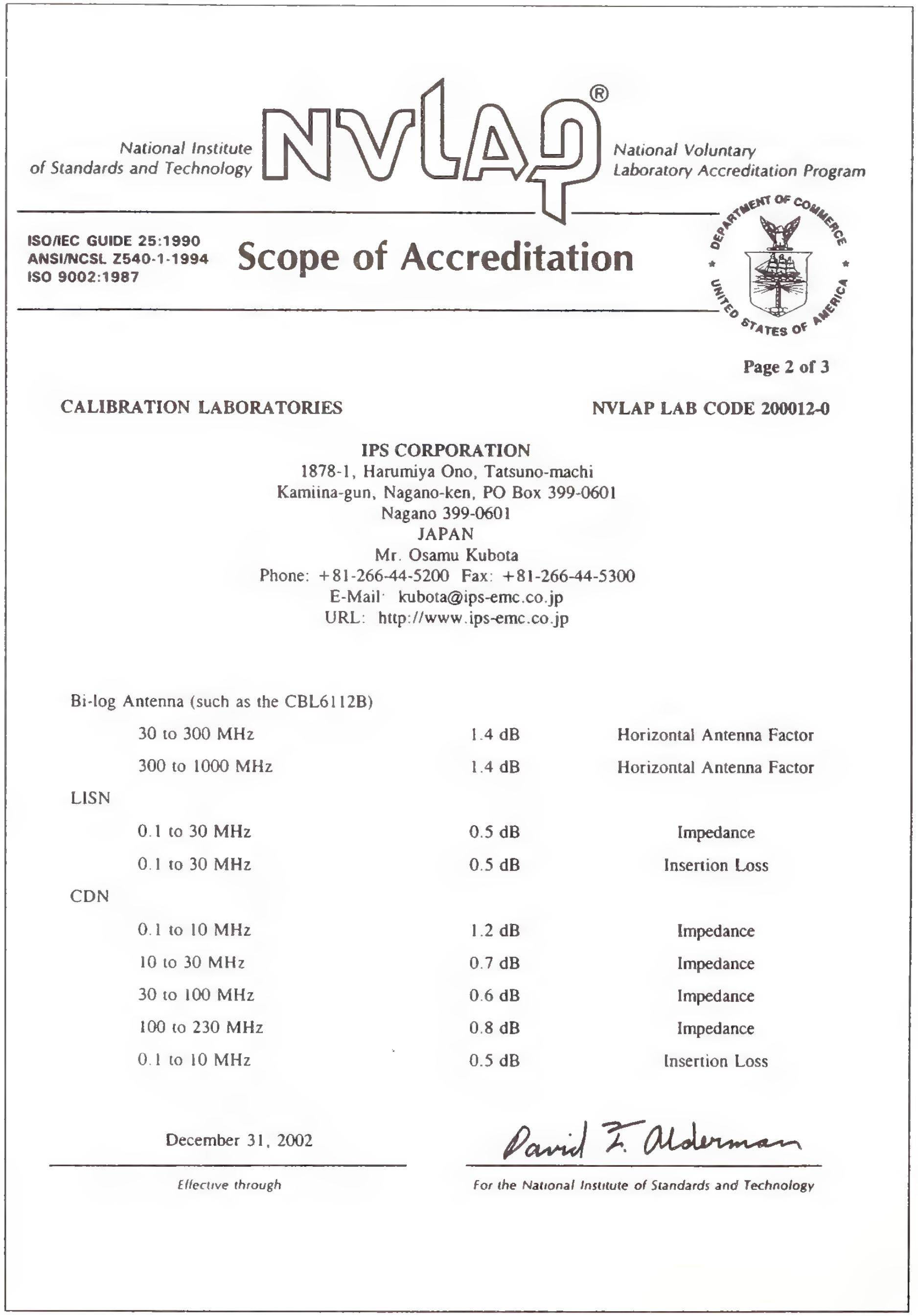

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IPS CORPORATION
1878-1, Harumiya Ono, Tatsuno-machi
Kamiina-gun, Nagano-ken, PO Box 399-0601
Nagano 399-0601
JAPAN
Mr. Osamu Kubota
Phone: +81-266-44-5200 Fax: +81-266-44-5300
E-Mail: kubota@ips-emc.co.jp
URL: http://www.ips-emc.co.jp

Bi-log Antenna (such as the CBL6112B)		
30 to 300 MHz	1.4 dB	Horizontal Antenna Factor
300 to 1000 MHz	1.4 dB	Horizontal Antenna Factor
LISN		
0.1 to 30 MHz	0.5 dB	Impedance
0.1 to 30 MHz	0.5 dB	Insertion Loss
CDN		
0.1 to 10 MHz	1.2 dB	Impedance
10 to 30 MHz	0.7 dB	Impedance
30 to 100 MHz	0.6 dB	Impedance
100 to 230 MHz	0.8 dB	Impedance
0.1 to 10 MHz	0.5 dB	Insertion Loss

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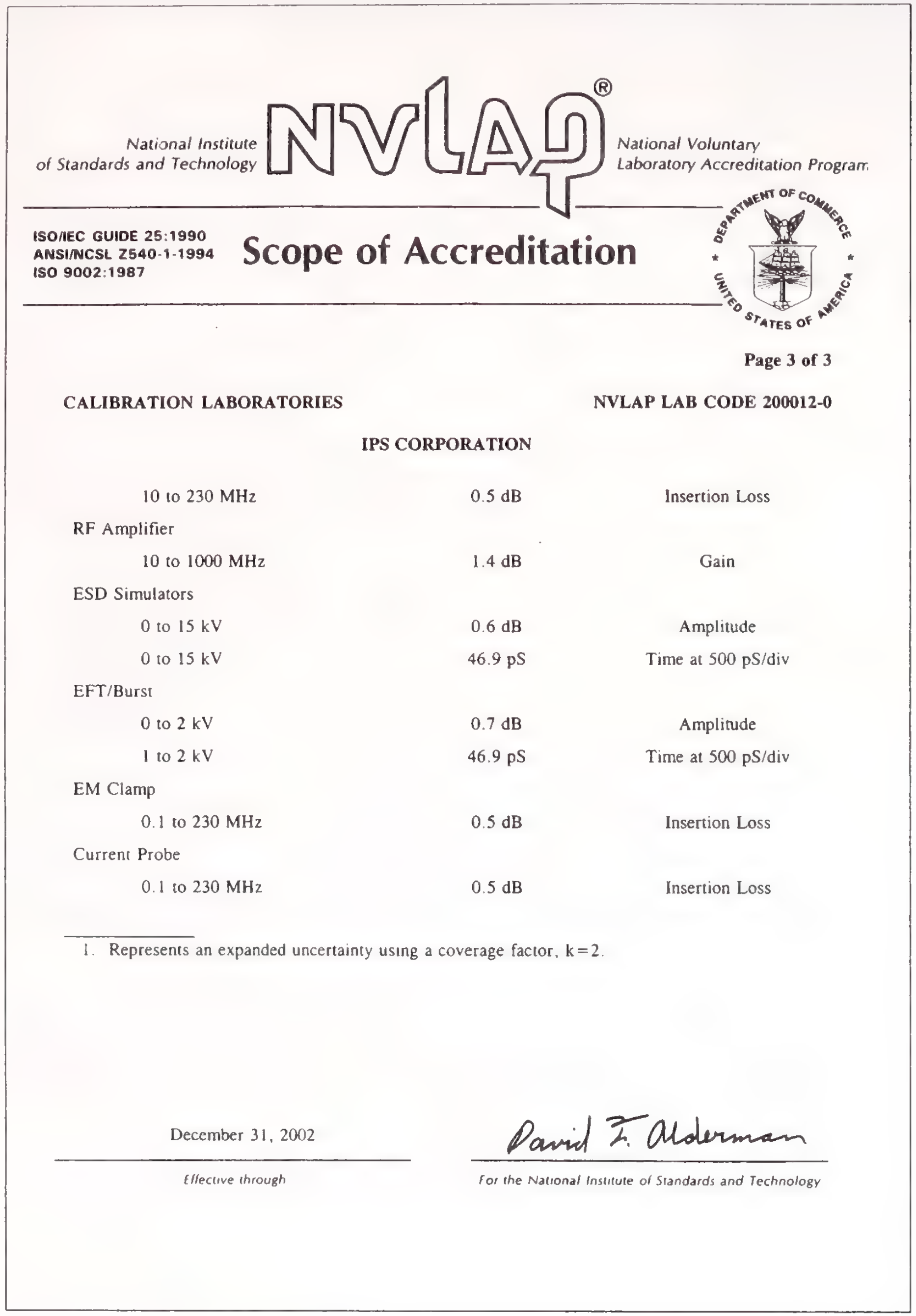

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IPS CORPORATION

10 to 230 MHz	0.5 dB	Insertion Loss
RF Amplifier		
10 to 1000 MHz	1.4 dB	Gain
ESD Simulators		
0 to 15 kV	0.6 dB	Amplitude
0 to 15 kV	46.9 pS	Time at 500 pS/div
EFT/Burst		
0 to 2 kV	0.7 dB	Amplitude
1 to 2 kV	46.9 pS	Time at 500 pS/div
EM Clamp		
0.1 to 230 MHz	0.5 dB	Insertion Loss
Current Probe		
0.1 to 230 MHz	0.5 dB	Insertion Loss

---

1. Represents an expanded uncertainty using a coverage factor, k=2.

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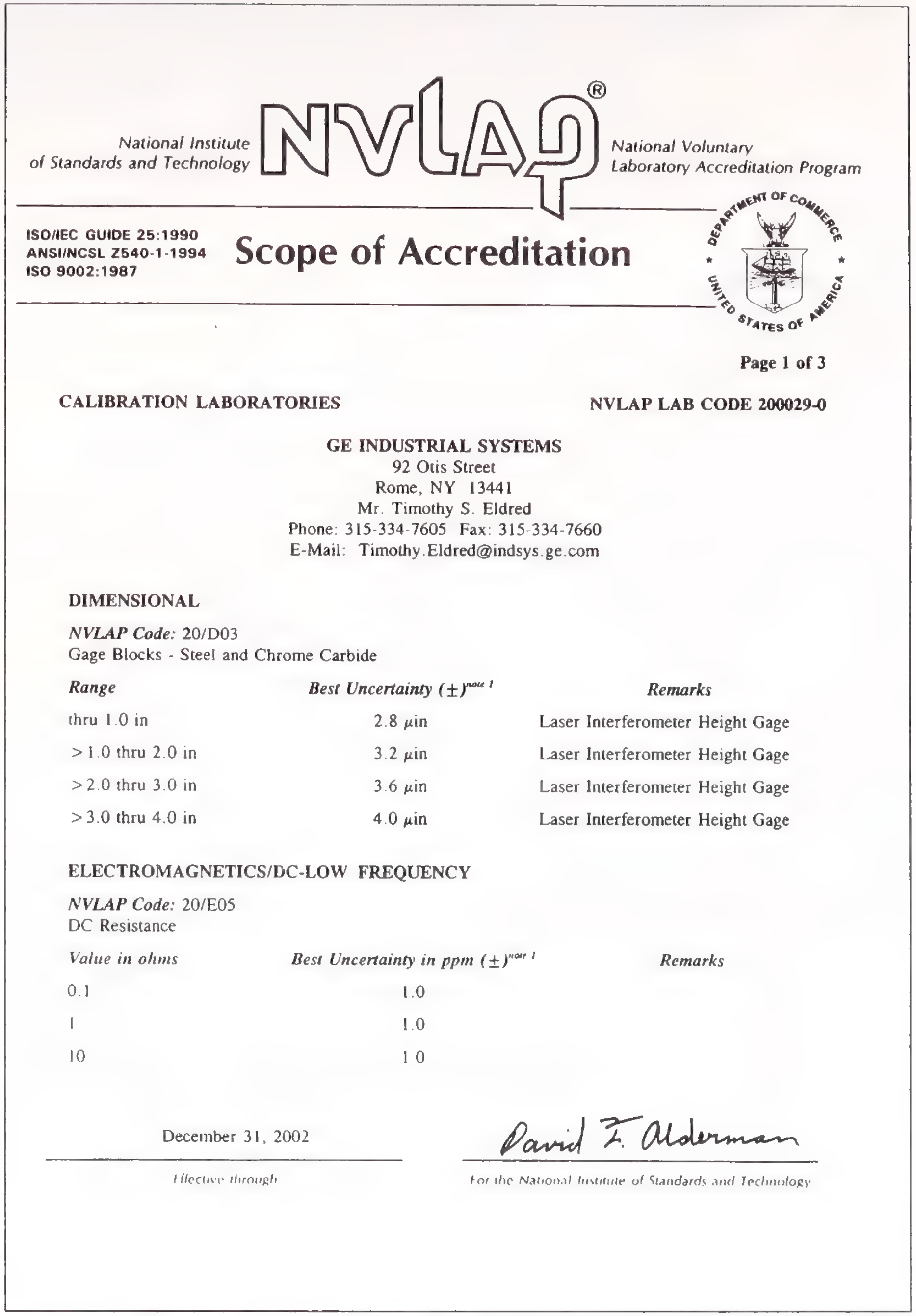

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CALIBRATION LABORATORIES **NVLAP LAB CODE 200029-0**

GE INDUSTRIAL SYSTEMS
92 Otis Street
Rome, NY 13441
Mr. Timothy S. Eldred
Phone: 315-334-7605 Fax: 315-334-7660
E-Mail: Timothy.Eldred@indsys.ge.com

DIMENSIONAL

NVLAP Code: 20/D03
Gage Blocks - Steel and Chrome Carbide

Range	*Best Uncertainty (±)^note 1^*	*Remarks*
thru 1.0 in	2.8 μin	Laser Interferometer Height Gage
>1.0 thru 2.0 in	3.2 μin	Laser Interferometer Height Gage
>2.0 thru 3.0 in	3.6 μin	Laser Interferometer Height Gage
>3.0 thru 4.0 in	4.0 μin	Laser Interferometer Height Gage

ELECTROMAGNETICS/DC-LOW FREQUENCY

NVLAP Code: 20/E05
DC Resistance

Value in ohms	*Best Uncertainty in ppm (±)^note 1^*	*Remarks*
0.1	1.0	
1	1.0	
10	1.0	

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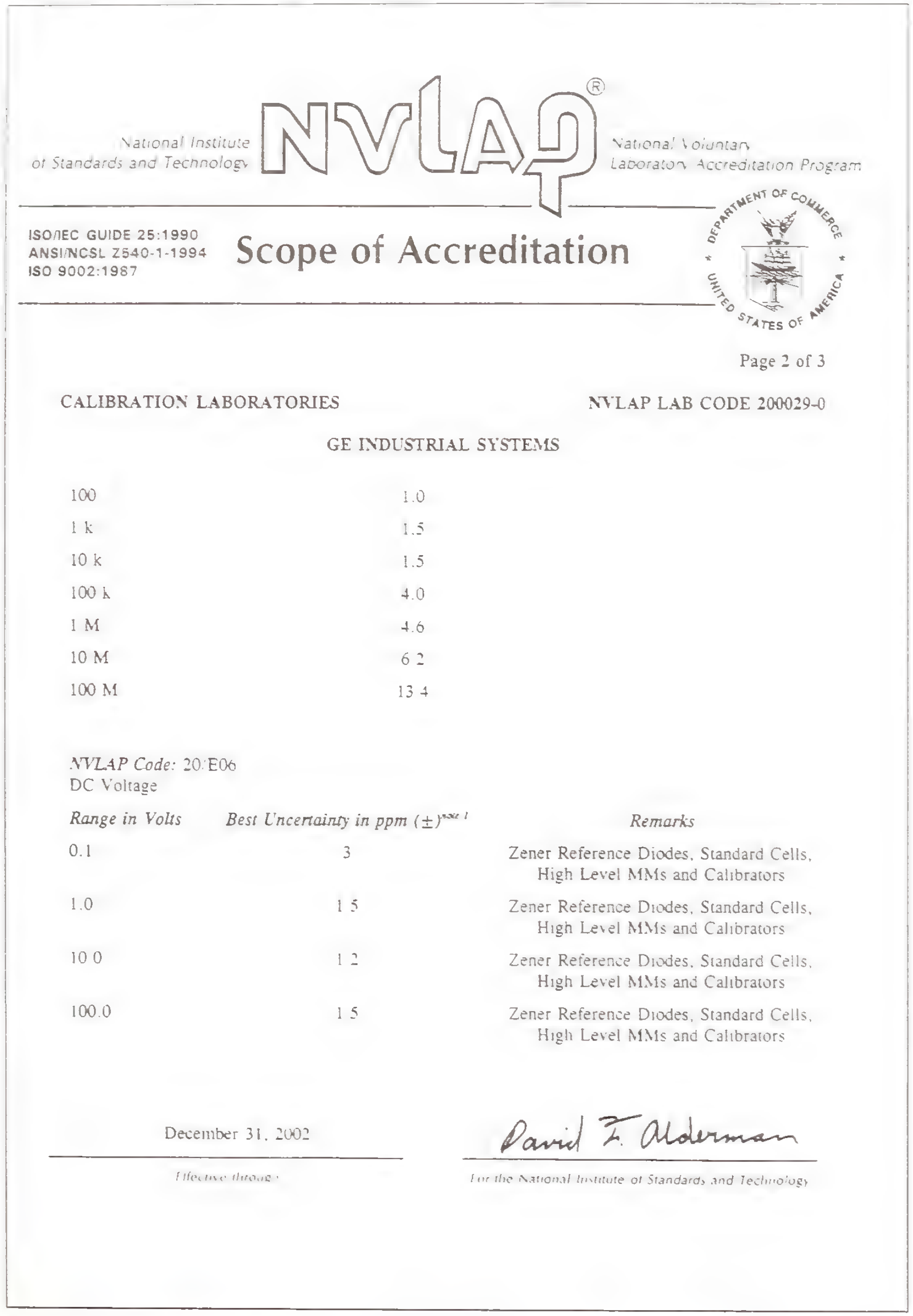

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CALIBRATION LABORATORIES NVLAP LAB CODE 200029-0

GE INDUSTRIAL SYSTEMS

100	1.0
1 k	1.5
10 k	1.5
100 k	4.0
1 M	4.6
10 M	6.2
100 M	13.4

NVLAP Code: 20/E06
DC Voltage

Range in Volts	*Best Uncertainty in ppm* (±)$^{\text{note 1}}$	*Remarks*
0.1	3	Zener Reference Diodes, Standard Cells, High Level MMs and Calibrators
1.0	1.5	Zener Reference Diodes, Standard Cells, High Level MMs and Calibrators
10.0	1.2	Zener Reference Diodes, Standard Cells, High Level MMs and Calibrators
100.0	1.5	Zener Reference Diodes, Standard Cells, High Level MMs and Calibrators

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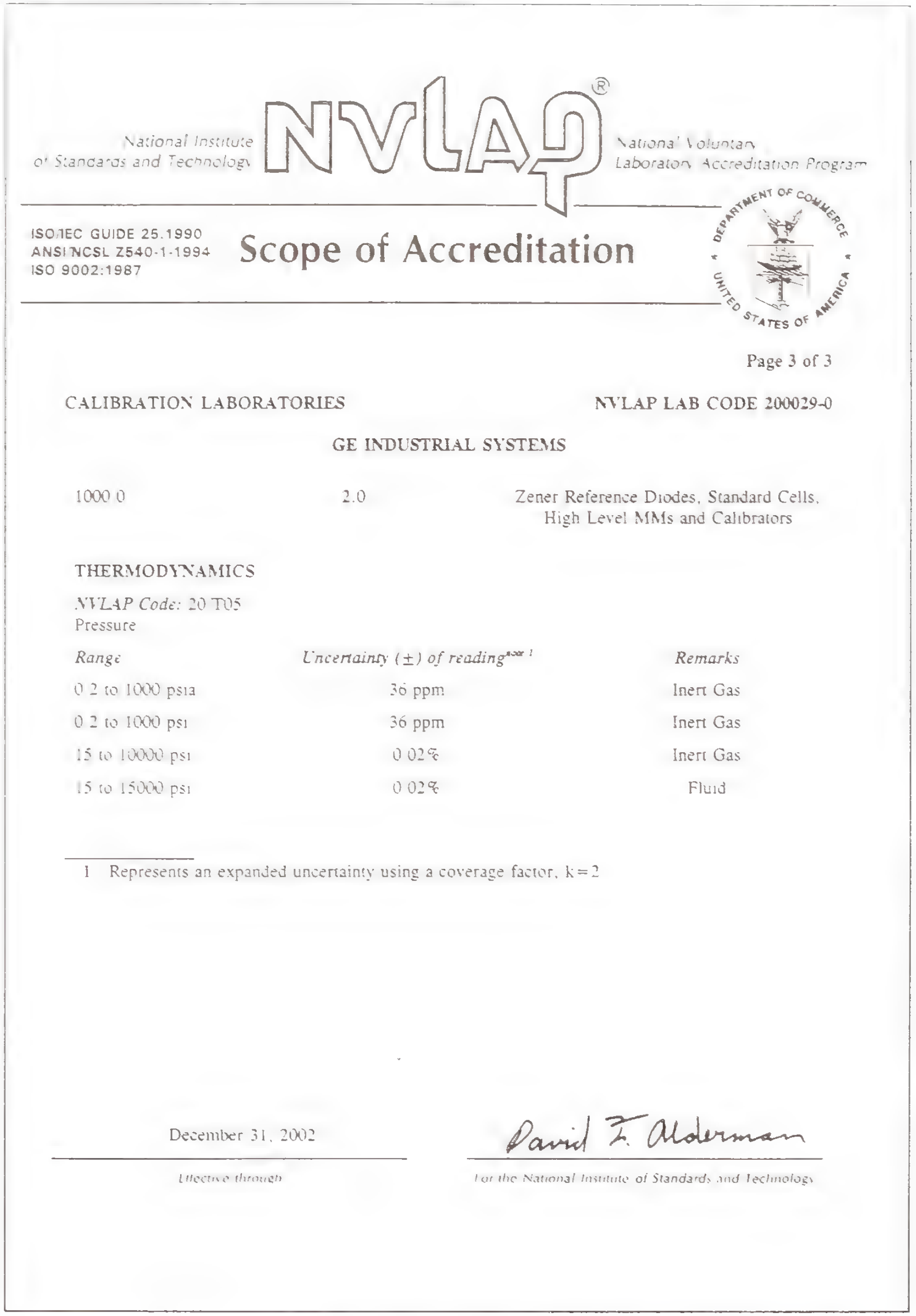

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GE INDUSTRIAL SYSTEMS

1000.0	2.0	Zener Reference Diodes, Standard Cells, High Level MMs and Calibrators

THERMODYNAMICS

NVLAP Code: 20/T05
Pressure

Range	*Uncertainty* (±) *of reading*$^{\text{note 1}}$	*Remarks*
0.2 to 1000 psia	36 ppm	Inert Gas
0.2 to 1000 psi	36 ppm	Inert Gas
15 to 10000 psi	0.02%	Inert Gas
15 to 15000 psi	0.02%	Fluid

---

1 Represents an expanded uncertainty using a coverage factor, k=2

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CALIBRATION LABORATORIES **NVLAP LAB CODE 200038-0**

WEBBER GAGE DIVISION / L.S. STARRETT CO.
24500 Detroit Road
Cleveland, OH 44145
Mr David Friedel
Phone: 440-835-0001 Fax: 440-892-9555

DIMENSIONAL

NVLAP Code: 20/D03
Gage Blocks

Range	***Best Uncertainty*** (±)$^{note\ 1,2,3}$	***Remarks***
Standard Size Gage Blocks		
thru 1.0 in	1.3 μin$^{note\ 6}$	Master Grade Calibration
thru 25 mm	0.035 μm$^{note\ 6}$	Master Grade Calibration
>1.0 thru 4.0 in	(0.8 + 0.5L) μin$^{note\ 6}$	Master Grade Calibration
> 25 thru 100 mm	(0.02 + 0.5L) $\mu^{note\ 6}$	Master Grade Calibration
> 4.0 thru 20.0 in	(3.5 + 0.25L) μin	Master Grade Calibration
>100 thru 500 mm	(0.09 + 0.25L) μm	Master Grade Calibration
thru 4.0 in	(1.4 + 0.6L) μin$^{note\ 4}$	Commercial Grade Calibration
thru 100 mm	(0.035 + 0.6L) μin$^{note\ 5}$	Commercial Grade Calibration
>4.0 thru 20.0 in	(6.0 + 0.3L) μin	Commercial Grade Calibration
>100 thru 500 mm	(0.15 + 0.3L) μm	Commercial Grade Calibration

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WEBBER GAGE DIVISION / L.S. STARRETT CO.

Non Standard Size Gage Blocks		
to 1.0 in	2.2 μin	Master Grade Calibration
to 25 mm	0.055 μm	Master Grade Calibration
>1.0 thru 4.6 in	(1.6 + 0.6L) μin	Master Grade Calibration
> 25 thru 117 mm	(0.04 + 0.6L) μm	Master Grade Calibration
>4.6 thru 20.0 in	(6.0 + 0.35L) μin	Master Grade Calibration
>117 thru 500 mm	(0.15 + 0.35L) μm	Master Grade Calibration

---

1 Represents an expanded uncertainty using a coverage factor, k=2
2 Approximate value. Actual value determined by the test statistics
3 L is in inches or meters as appropriate.
4 Uncertainty not less than 2.0 μin
5 Uncertainty not less than 0.05 μm.
6. Best uncertainty is for gage blocks of chrome-carbide material. Best uncertainty for materials other than chrome-carbide may be approximately 40% larger.

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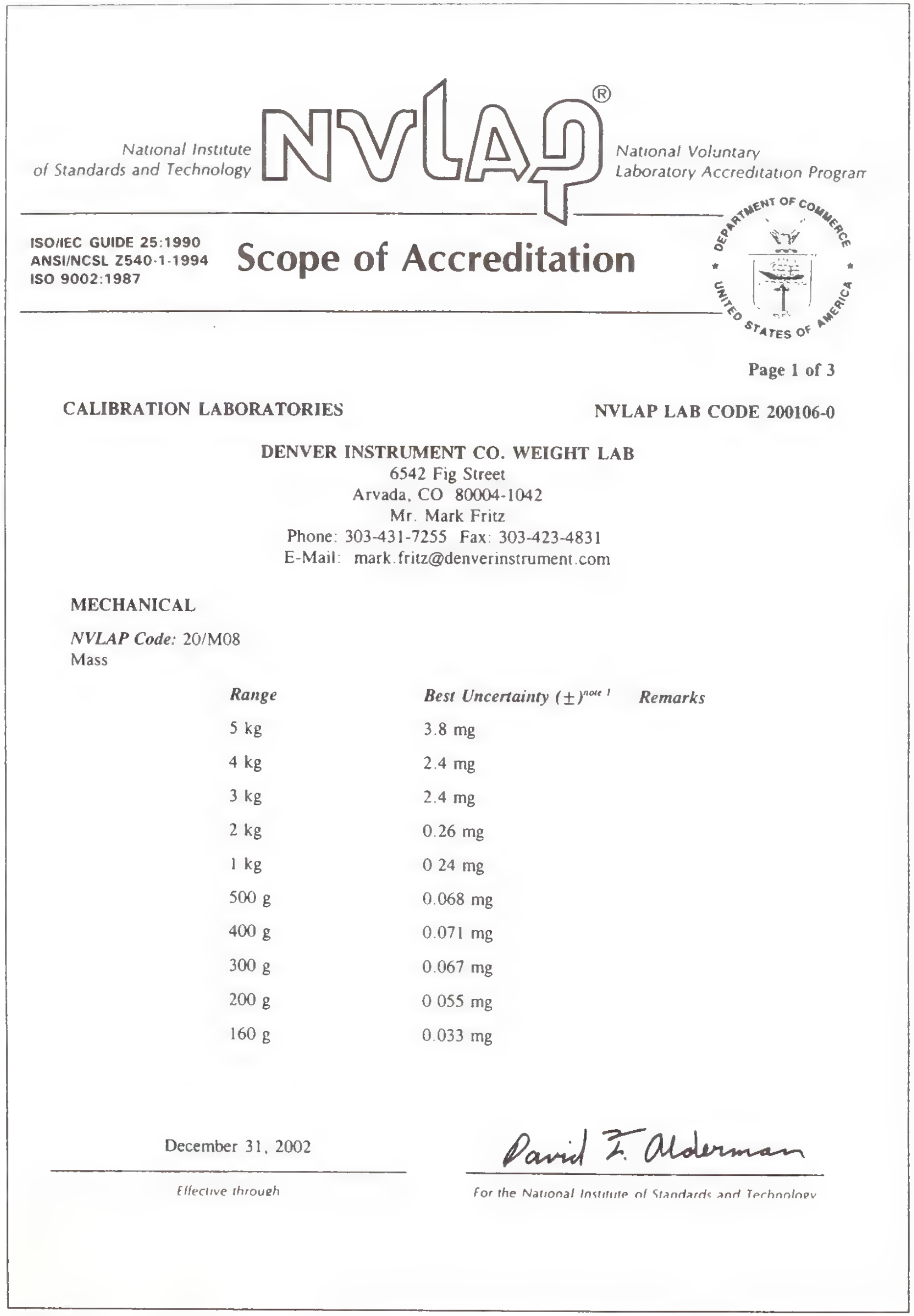

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CALIBRATION LABORATORIES **NVLAP LAB CODE 200106-0**

DENVER INSTRUMENT CO. WEIGHT LAB
6542 Fig Street
Arvada, CO 80004-1042
Mr. Mark Fritz
Phone: 303-431-7255 Fax: 303-423-4831
E-Mail: mark.fritz@denverinstrument.com

MECHANICAL

NVLAP Code: 20/M08
Mass

Range	*Best Uncertainty* $(\pm)^{note\ 1}$	*Remarks*
5 kg	3.8 mg	
4 kg	2.4 mg	
3 kg	2.4 mg	
2 kg	0.26 mg	
1 kg	0 24 mg	
500 g	0.068 mg	
400 g	0.071 mg	
300 g	0.067 mg	
200 g	0 055 mg	
160 g	0.033 mg	

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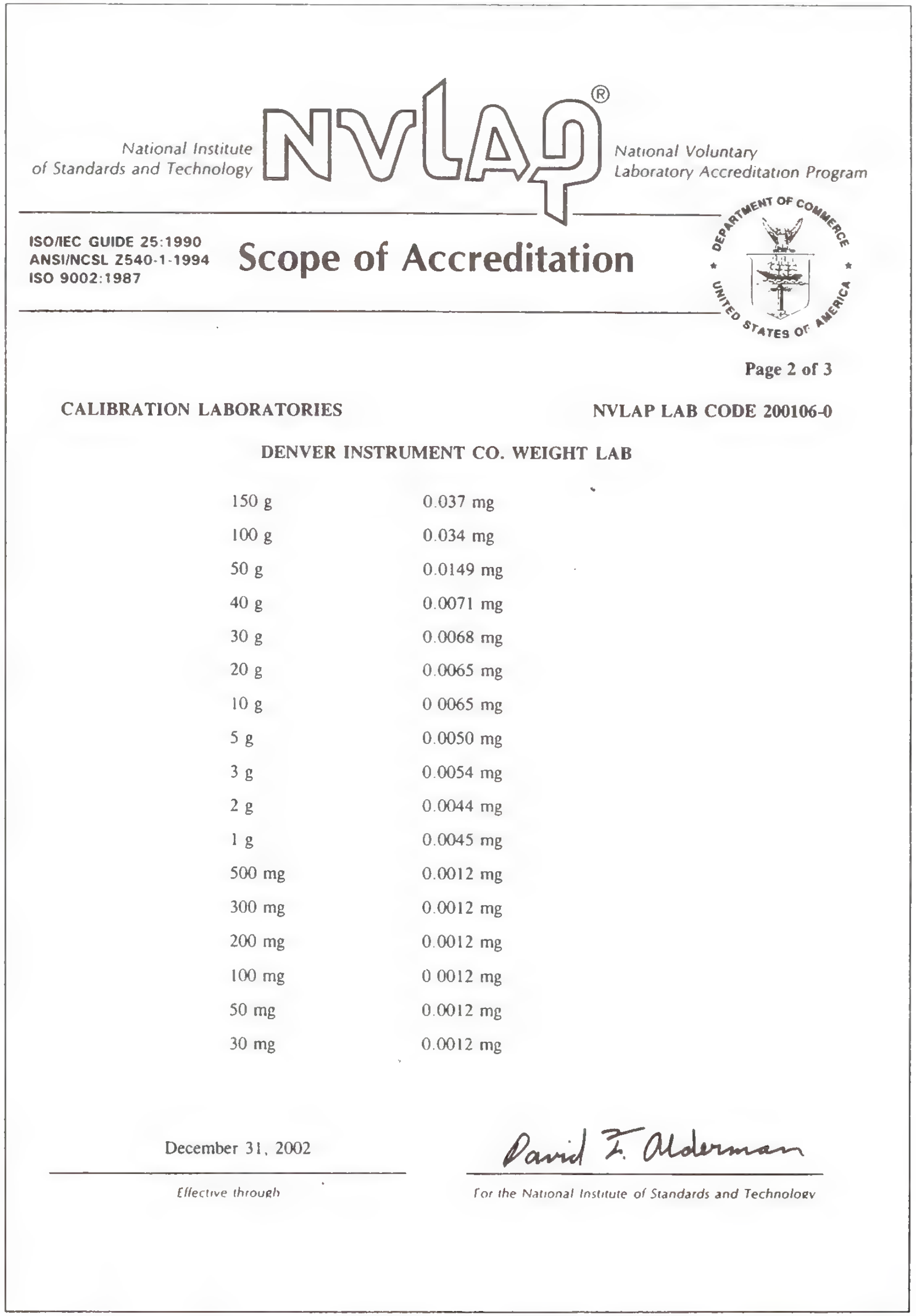

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CALIBRATION LABORATORIES **NVLAP LAB CODE 200106-0**

DENVER INSTRUMENT CO. WEIGHT LAB

150 g	0.037 mg
100 g	0.034 mg
50 g	0.0149 mg
40 g	0.0071 mg
30 g	0.0068 mg
20 g	0.0065 mg
10 g	0 0065 mg
5 g	0.0050 mg
3 g	0.0054 mg
2 g	0.0044 mg
1 g	0.0045 mg
500 mg	0.0012 mg
300 mg	0.0012 mg
200 mg	0.0012 mg
100 mg	0 0012 mg
50 mg	0.0012 mg
30 mg	0.0012 mg

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DENVER INSTRUMENT CO. WEIGHT LAB

20 mg	0.0012 mg
10 mg	0.0012 mg
5 mg	0.0012 mg
3 mg	0.0012 mg
2 mg	0.0012 mg
1 mg	0.0012 mg

---

1. Represents an expanded uncertainty using a coverage factor, k=2.

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CALIBRATION LABORATORIES **NVLAP LAB CODE 200108-0**

HONEYWELL FM&T METROLOGY
2000 East 95th Street
P.O. Box 419159
Kansas City, MO 64141-6159
Mr. Roger N. Burton
Phone: 816-997-5431 Fax: 816-997-3856
E-Mail: rburton@kcp.com

DIMENSIONAL

NVLAP Code: 20/D01
Angle Blocks

Range	*Best Uncertainty* (±)[note 1]	*Remarks*
up to 45 °	1.1 arc seconds	Comparison Method

Autocollimators

0 to 600 arc seconds	(0.3 arc seconds + 0.25% of angle)	Small Angle Generator

Index Table/Polygons

0 to 360 ° (in 10 ° or 30 ° increments)	0.6 arc seconds	3 Stack Method

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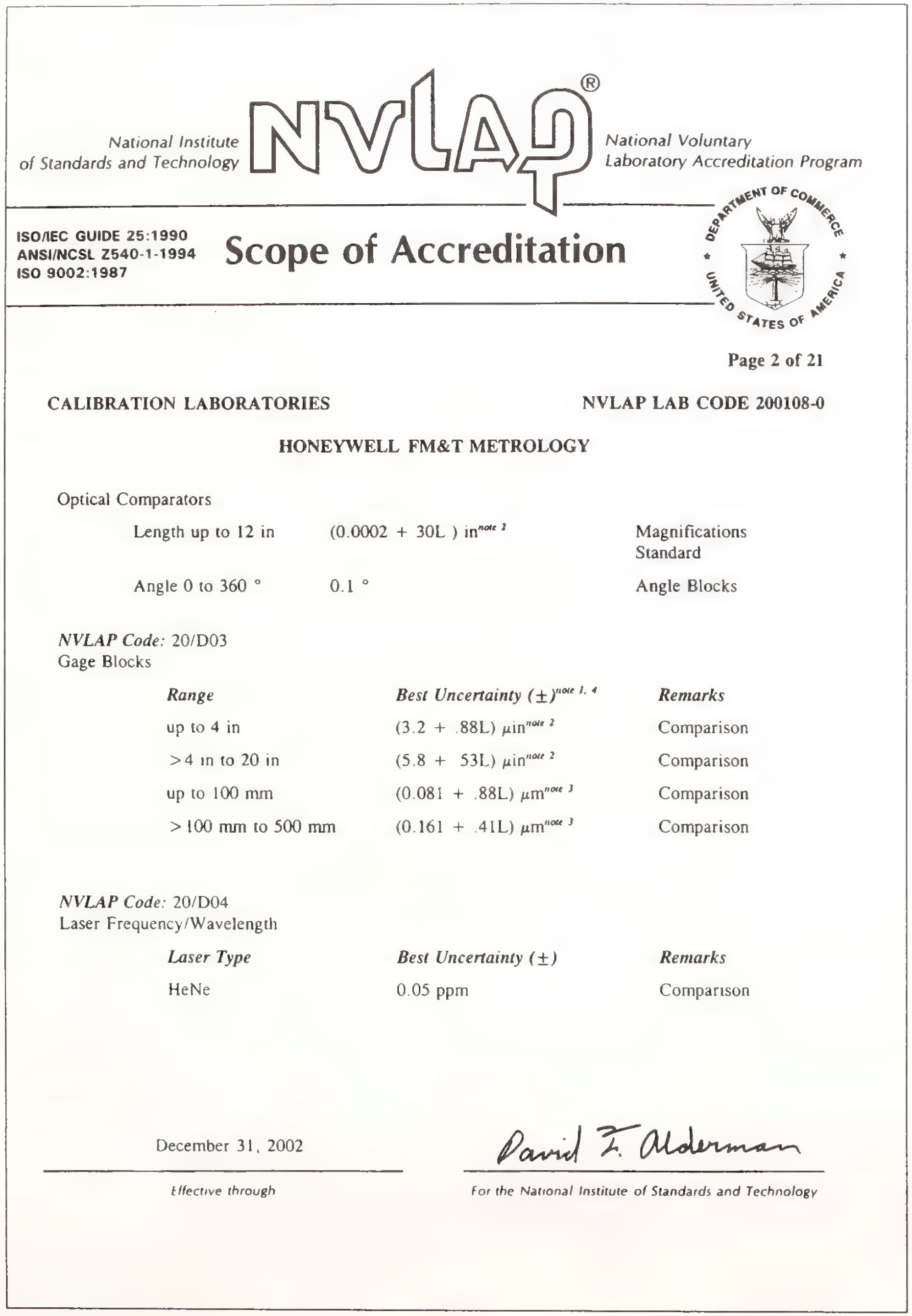

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HONEYWELL FM&T METROLOGY

Optical Comparators

Length up to 12 in	(0.0002 + 30L) in$^{\text{note 2}}$	Magnifications Standard
Angle 0 to 360 °	0.1 °	Angle Blocks

NVLAP Code: 20/D03
Gage Blocks

Range	*Best Uncertainty* (±)$^{\text{note 1, 4}}$	*Remarks*
up to 4 in	(3.2 + .88L) μin$^{\text{note 2}}$	Comparison
>4 in to 20 in	(5.8 + 53L) μin$^{\text{note 2}}$	Comparison
up to 100 mm	(0.081 + .88L) μm$^{\text{note 3}}$	Comparison
>100 mm to 500 mm	(0.161 + .41L) μm$^{\text{note 3}}$	Comparison

NVLAP Code: 20/D04
Laser Frequency/Wavelength

Laser Type	*Best Uncertainty* (±)	*Remarks*
HeNe	0.05 ppm	Comparison

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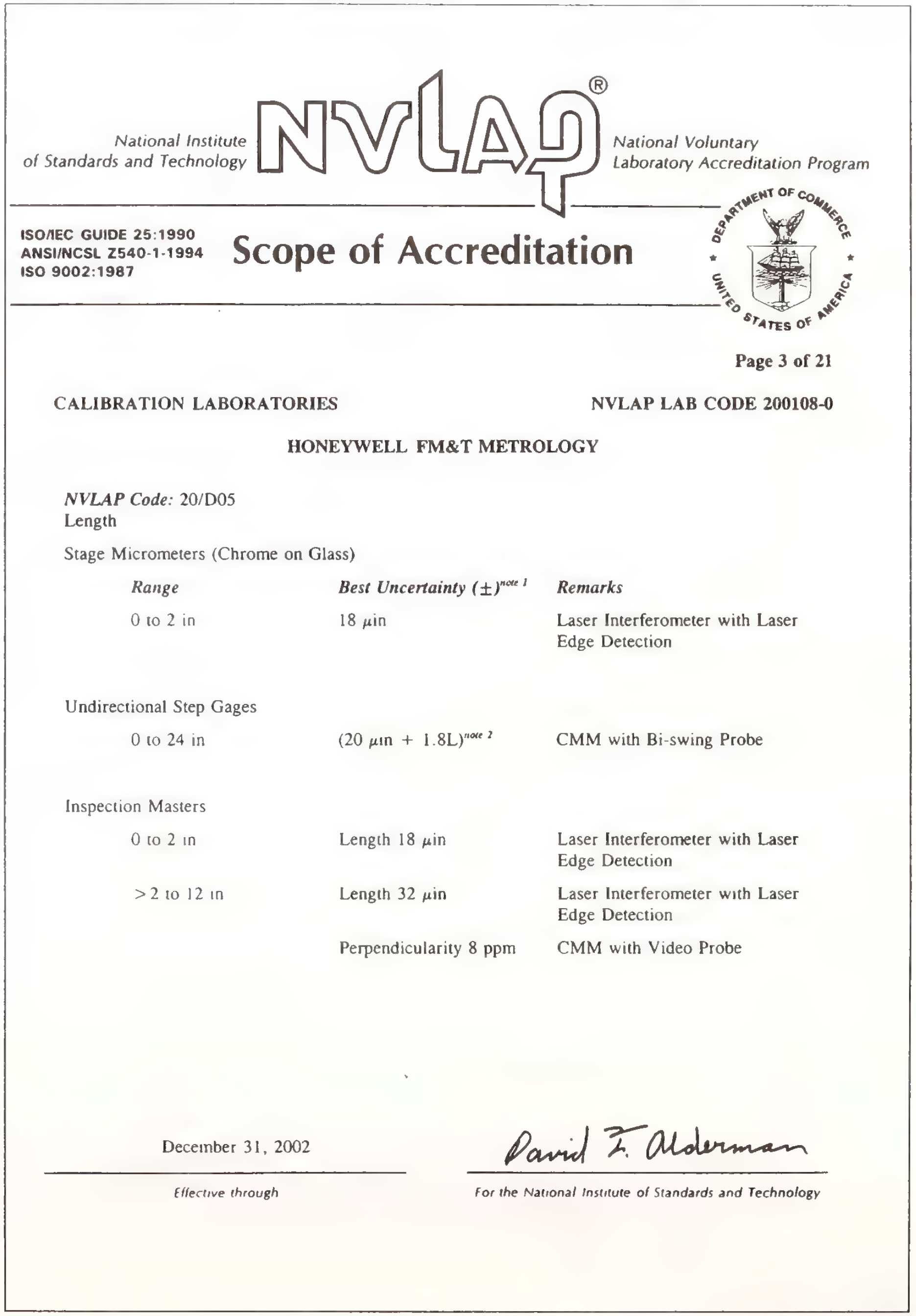

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HONEYWELL FM&T METROLOGY

NVLAP Code: 20/D05
Length

Stage Micrometers (Chrome on Glass)

Range	*Best Uncertainty* (±)$^{\text{note 1}}$	*Remarks*
0 to 2 in	18 μin	Laser Interferometer with Laser Edge Detection

Undirectional Step Gages

0 to 24 in	(20 μin + 1.8L)$^{\text{note 2}}$	CMM with Bi-swing Probe

Inspection Masters

0 to 2 in	Length 18 μin	Laser Interferometer with Laser Edge Detection
>2 to 12 in	Length 32 μin	Laser Interferometer with Laser Edge Detection
	Perpendicularity 8 ppm	CMM with Video Probe

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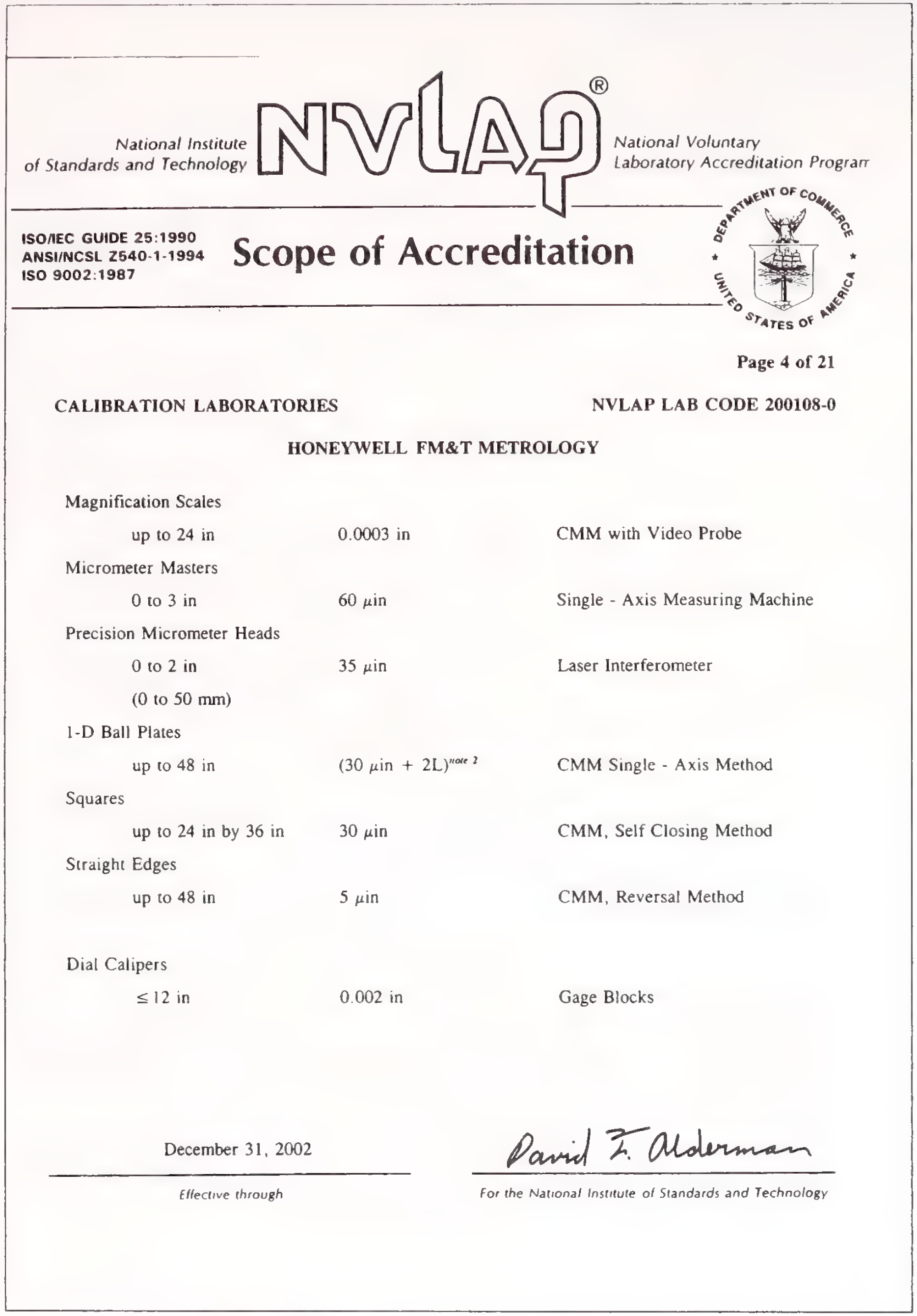

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HONEYWELL FM&T METROLOGY

Magnification Scales		
up to 24 in	0.0003 in	CMM with Video Probe
Micrometer Masters		
0 to 3 in	60 µin	Single - Axis Measuring Machine
Precision Micrometer Heads		
0 to 2 in	35 µin	Laser Interferometer
(0 to 50 mm)		
1-D Ball Plates		
up to 48 in	(30 µin + 2L)$^{\text{note 2}}$	CMM Single - Axis Method
Squares		
up to 24 in by 36 in	30 µin	CMM, Self Closing Method
Straight Edges		
up to 48 in	5 µin	CMM, Reversal Method
Dial Calipers		
≤ 12 in	0.002 in	Gage Blocks

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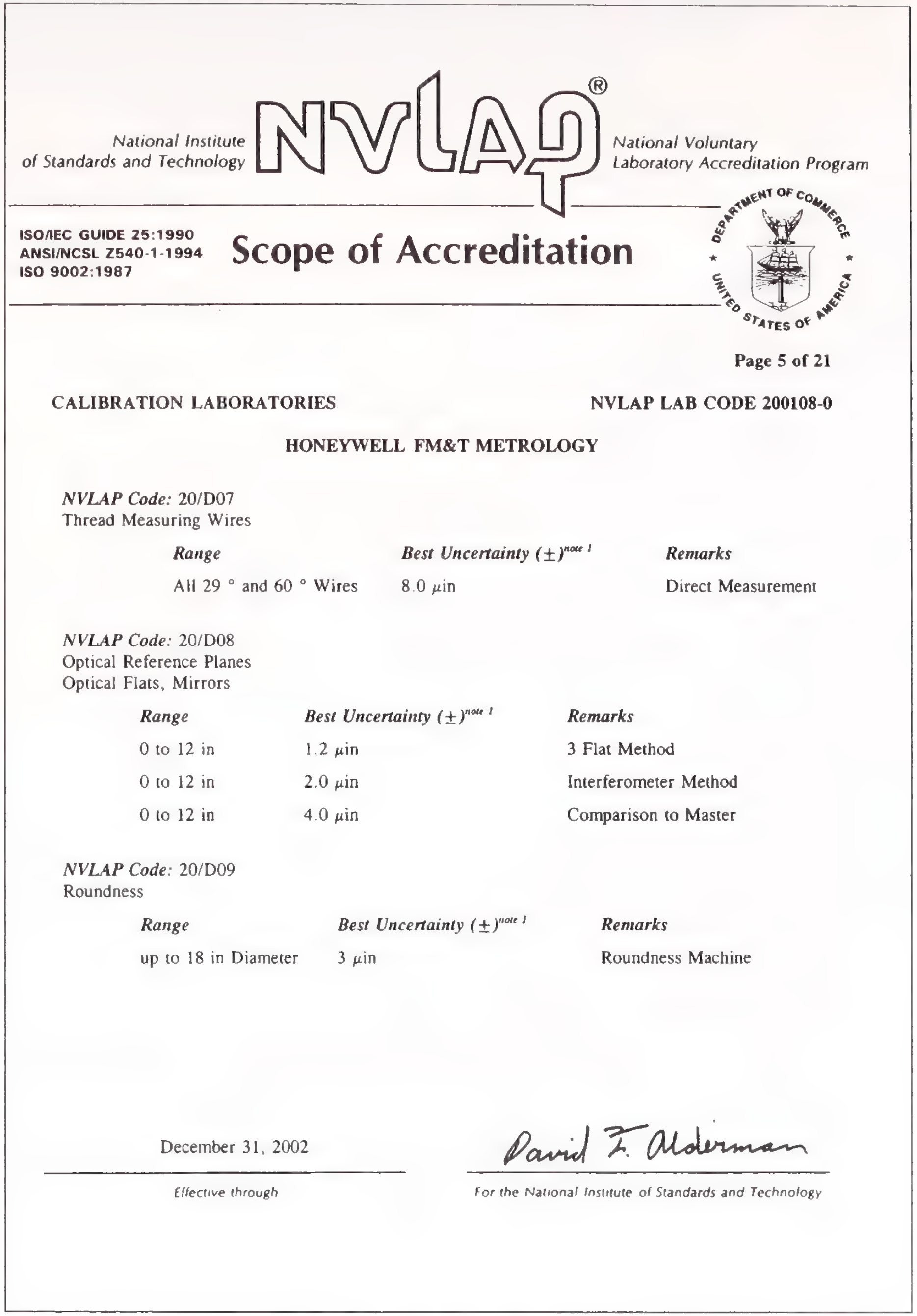

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NVLAP Code: 20/D07
Thread Measuring Wires

Range	*Best Uncertainty* (±)$^{\text{note 1}}$	*Remarks*
All 29 ° and 60 ° Wires	8.0 µin	Direct Measurement

NVLAP Code: 20/D08
Optical Reference Planes
Optical Flats, Mirrors

Range	*Best Uncertainty* (±)$^{\text{note 1}}$	*Remarks*
0 to 12 in	1.2 µin	3 Flat Method
0 to 12 in	2.0 µin	Interferometer Method
0 to 12 in	4.0 µin	Comparison to Master

NVLAP Code: 20/D09
Roundness

Range	*Best Uncertainty* (±)$^{\text{note 1}}$	*Remarks*
up to 18 in Diameter	3 µin	Roundness Machine

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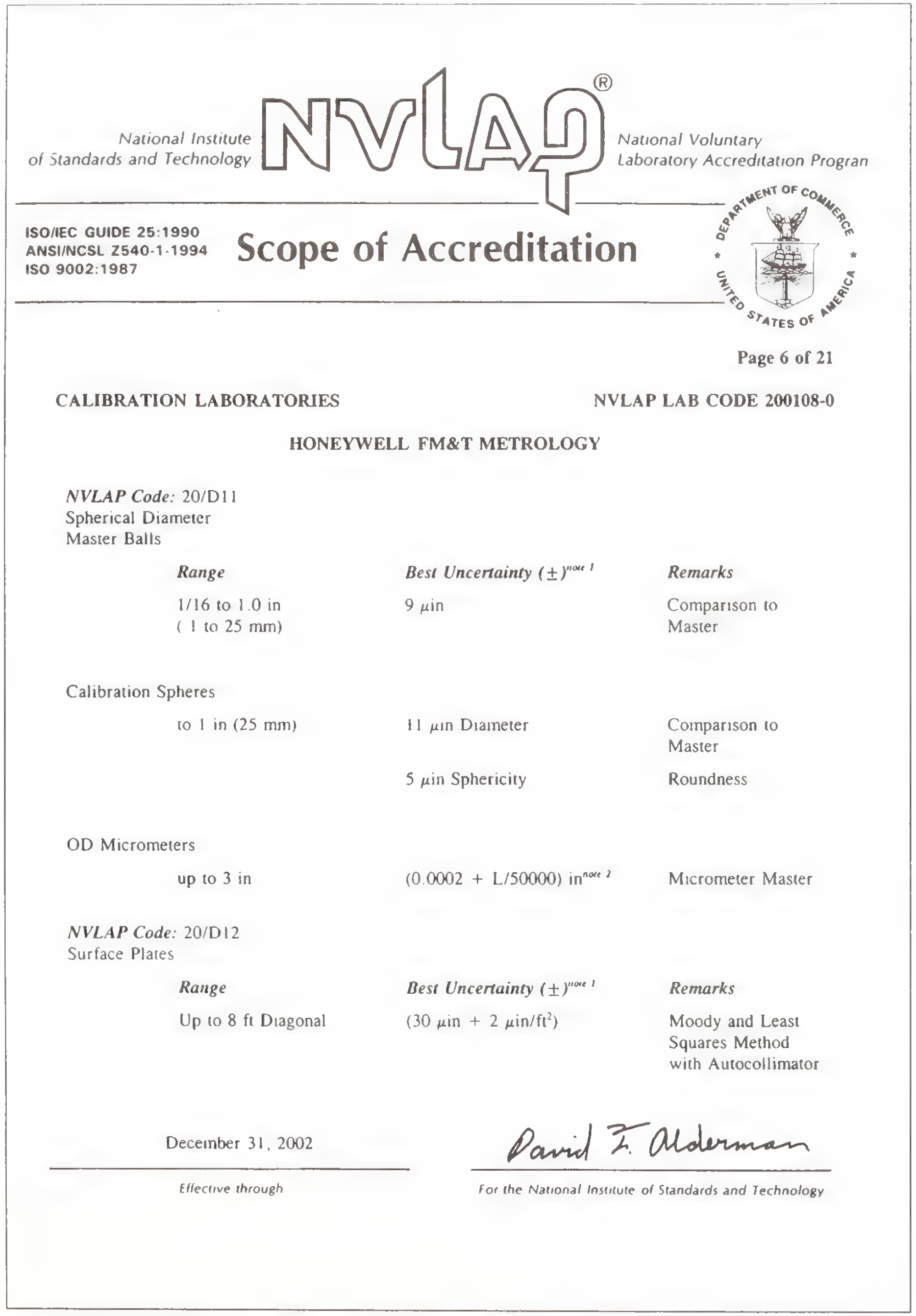

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HONEYWELL FM&T METROLOGY

NVLAP Code: 20/D11
Spherical Diameter
Master Balls

Range	*Best Uncertainty* (±)$^{note\ 1}$	*Remarks*
1/16 to 1.0 in (1 to 25 mm)	9 μin	Comparison to Master

Calibration Spheres

to 1 in (25 mm)	11 μin Diameter	Comparison to Master
	5 μin Sphericity	Roundness

OD Micrometers

up to 3 in	(0.0002 + L/50000) in$^{note\ 2}$	Micrometer Master

NVLAP Code: 20/D12
Surface Plates

Range	*Best Uncertainty* (±)$^{note\ 1}$	*Remarks*
Up to 8 ft Diagonal	(30 μin + 2 μin/ft^2)	Moody and Least Squares Method with Autocollimator

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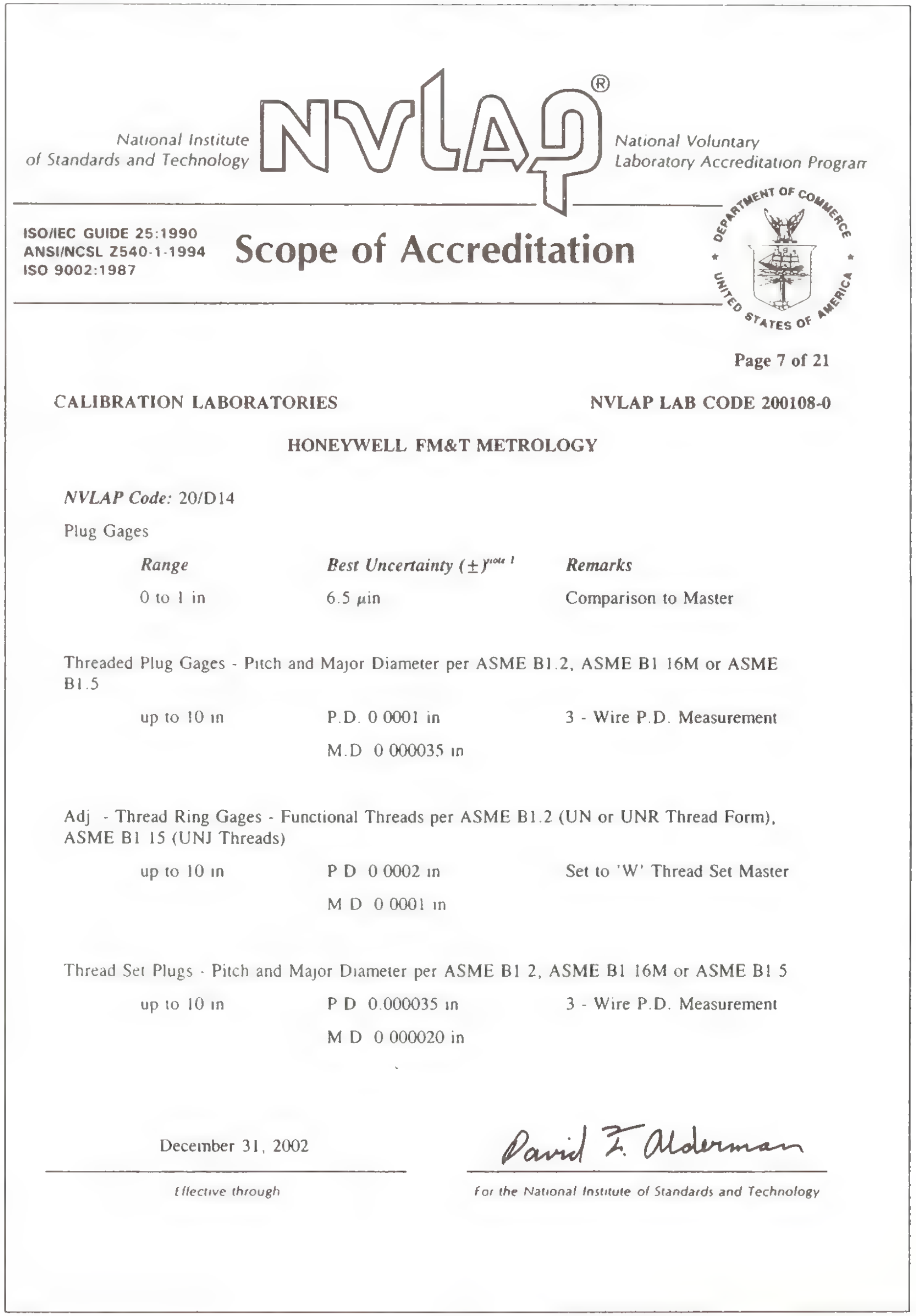

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HONEYWELL FM&T METROLOGY

NVLAP Code: 20/D14

Plug Gages

Range	*Best Uncertainty* (±)$^{note\ 1}$	*Remarks*
0 to 1 in	6.5 μin	Comparison to Master

Threaded Plug Gages - Pitch and Major Diameter per ASME B1.2, ASME B1 16M or ASME B1.5

up to 10 in	P.D. 0 0001 in M.D 0 000035 in	3 - Wire P.D. Measurement

Adj - Thread Ring Gages - Functional Threads per ASME B1.2 (UN or UNR Thread Form), ASME B1 15 (UNJ Threads)

up to 10 in	P D 0 0002 in M D 0 0001 in	Set to 'W' Thread Set Master

Thread Set Plugs - Pitch and Major Diameter per ASME B1 2, ASME B1 16M or ASME B1 5

up to 10 in	P D 0.000035 in M D 0 000020 in	3 - Wire P.D. Measurement

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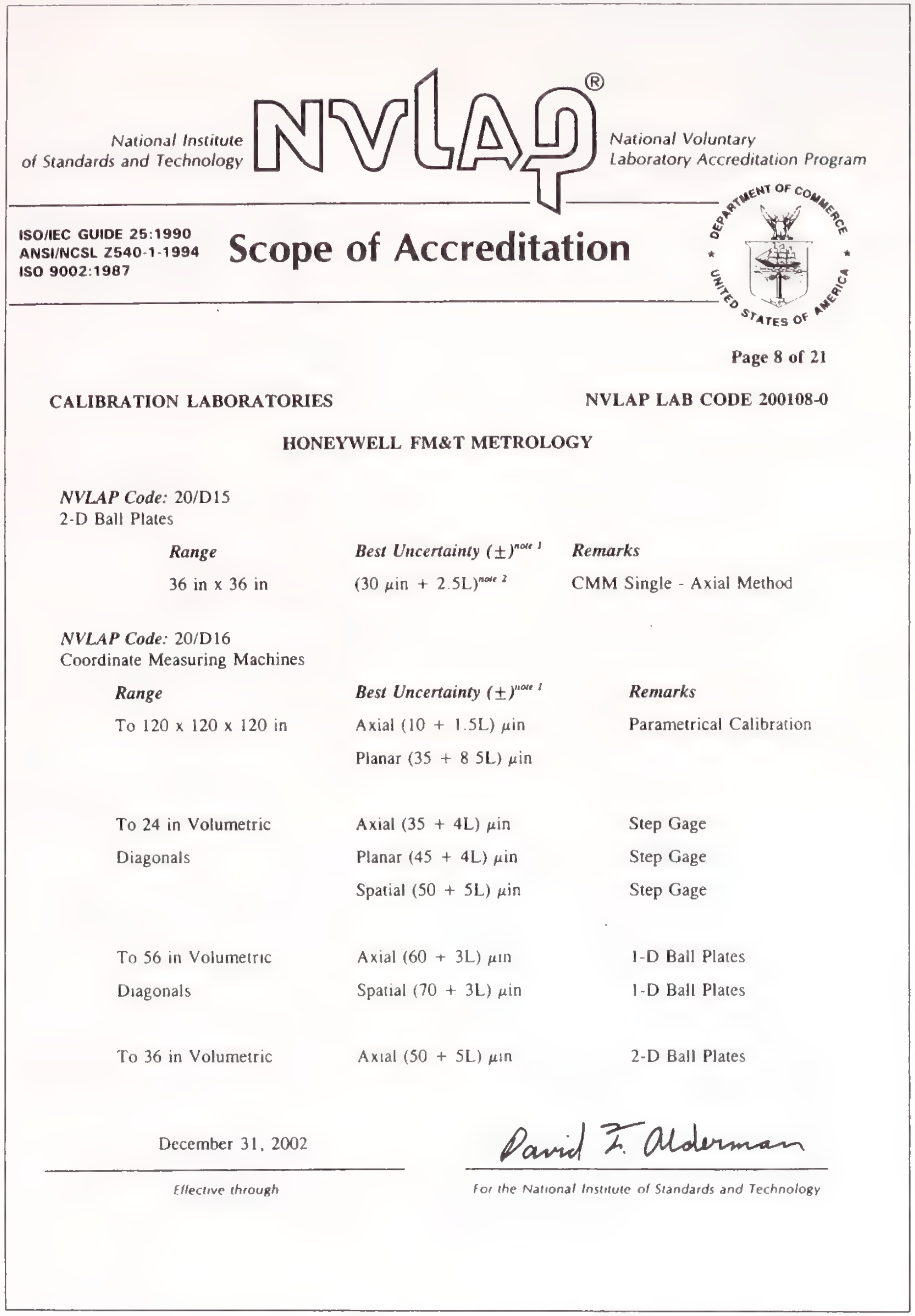

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HONEYWELL FM&T METROLOGY

NVLAP Code: 20/D15
2-D Ball Plates

Range	*Best Uncertainty* (±)$^{\text{note 1}}$	*Remarks*
36 in x 36 in	(30 μin + 2.5L)$^{\text{note 2}}$	CMM Single - Axial Method

NVLAP Code: 20/D16
Coordinate Measuring Machines

Range	*Best Uncertainty* (±)$^{\text{note 1}}$	*Remarks*
To 120 x 120 x 120 in	Axial (10 + 1.5L) μin	Parametrical Calibration
	Planar (35 + 8 5L) μin	
To 24 in Volumetric	Axial (35 + 4L) μin	Step Gage
Diagonals	Planar (45 + 4L) μin	Step Gage
	Spatial (50 + 5L) μin	Step Gage
To 56 in Volumetric	Axial (60 + 3L) μin	1-D Ball Plates
Diagonals	Spatial (70 + 3L) μin	1-D Ball Plates
To 36 in Volumetric	Axial (50 + 5L) μin	2-D Ball Plates

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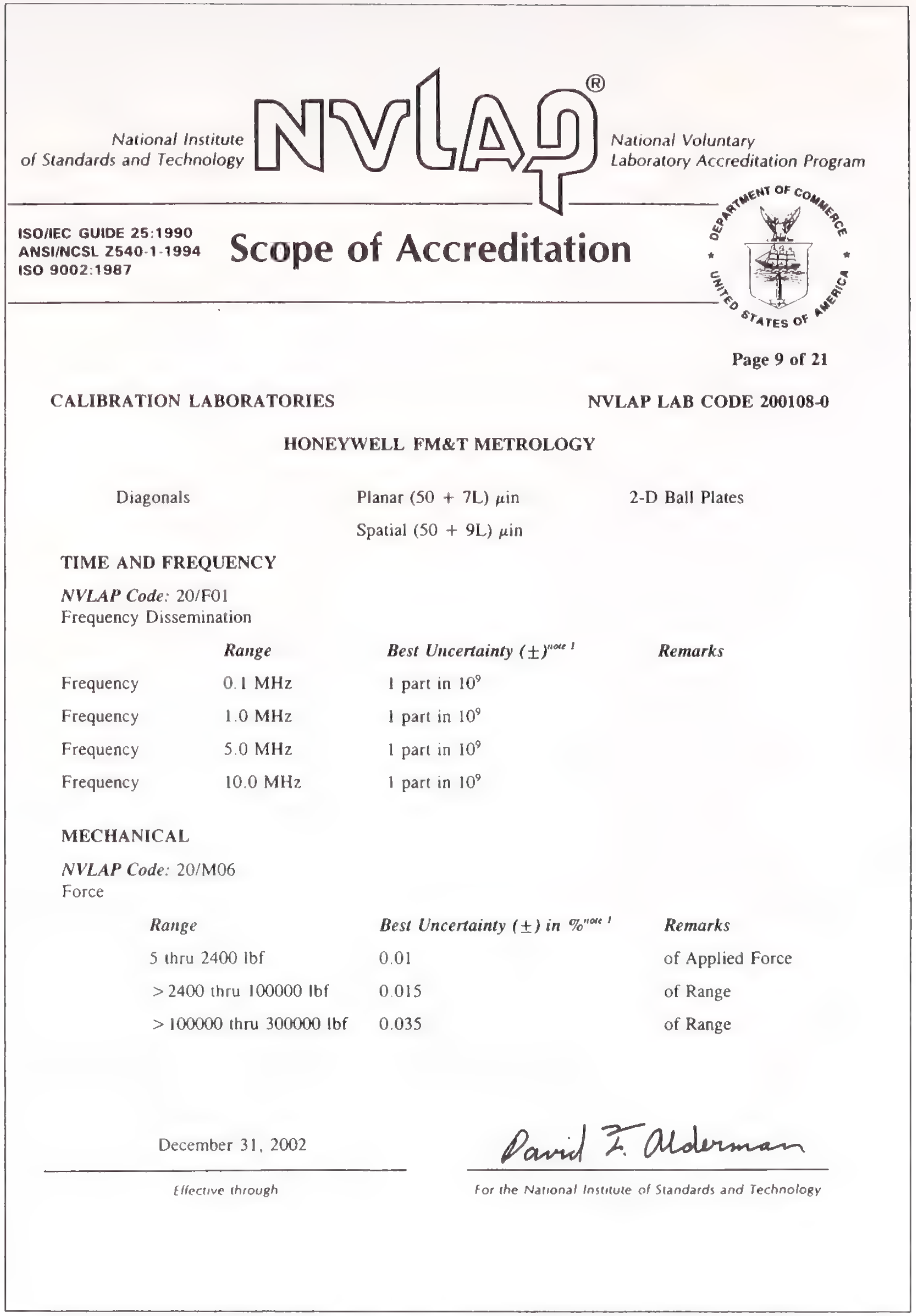

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HONEYWELL FM&T METROLOGY

Diagonals	Planar (50 + 7L) μin	2-D Ball Plates
	Spatial (50 + 9L) μin	

TIME AND FREQUENCY

NVLAP Code: 20/F01
Frequency Dissemination

	Range	*Best Uncertainty* (±)$^{\text{note 1}}$	*Remarks*
Frequency	0.1 MHz	1 part in 10^9	
Frequency	1.0 MHz	1 part in 10^9	
Frequency	5.0 MHz	1 part in 10^9	
Frequency	10.0 MHz	1 part in 10^9	

MECHANICAL

NVLAP Code: 20/M06
Force

Range	*Best Uncertainty* (±) *in* %$^{\text{note 1}}$	*Remarks*
5 thru 2400 lbf	0.01	of Applied Force
>2400 thru 100000 lbf	0.015	of Range
>100000 thru 300000 lbf	0.035	of Range

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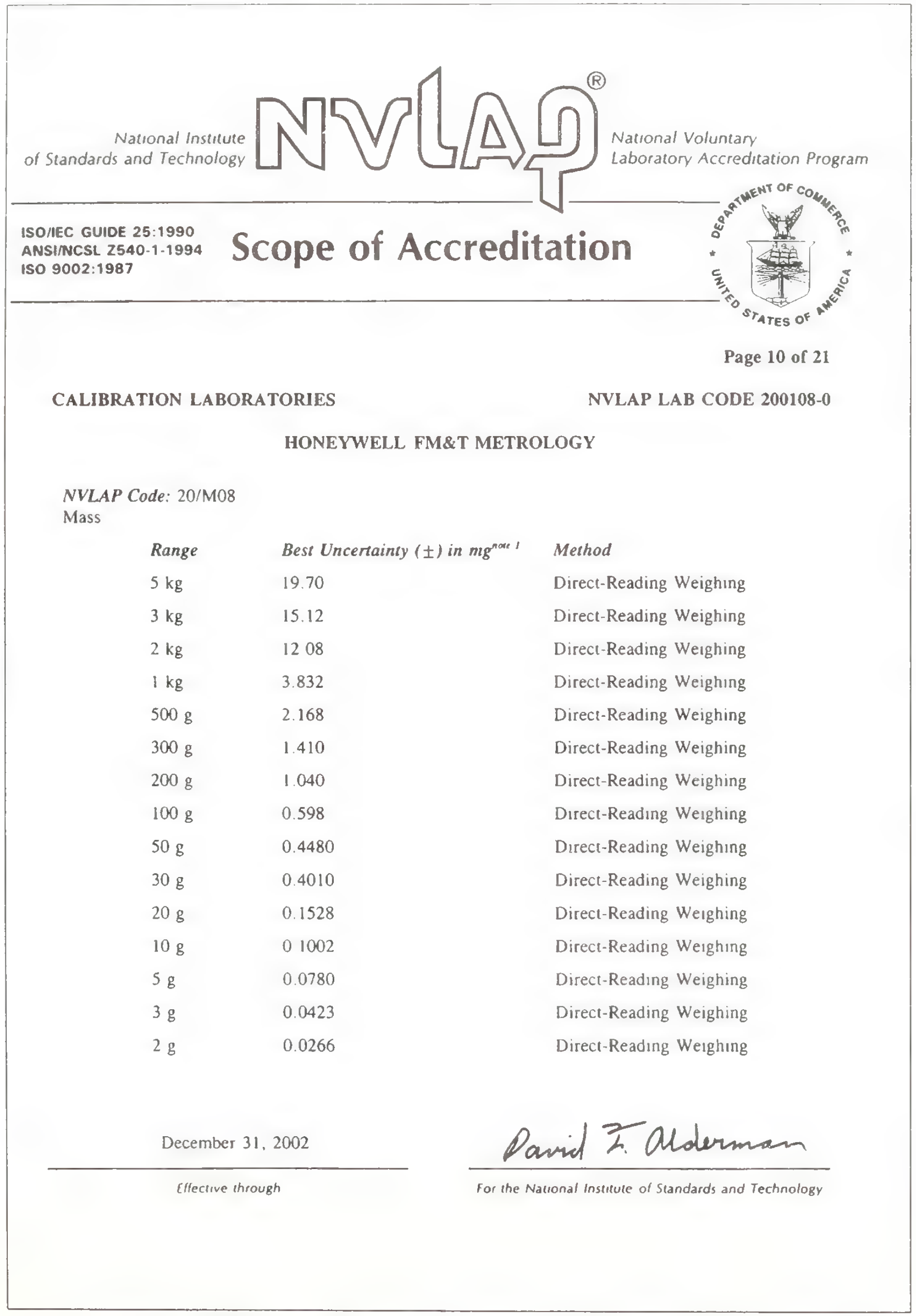

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HONEYWELL FM&T METROLOGY

NVLAP Code: 20/M08
Mass

Range	*Best Uncertainty (±) in mg*$^{note\ 1}$	*Method*
5 kg	19.70	Direct-Reading Weighing
3 kg	15.12	Direct-Reading Weighing
2 kg	12.08	Direct-Reading Weighing
1 kg	3.832	Direct-Reading Weighing
500 g	2.168	Direct-Reading Weighing
300 g	1.410	Direct-Reading Weighing
200 g	1.040	Direct-Reading Weighing
100 g	0.598	Direct-Reading Weighing
50 g	0.4480	Direct-Reading Weighing
30 g	0.4010	Direct-Reading Weighing
20 g	0.1528	Direct-Reading Weighing
10 g	0.1002	Direct-Reading Weighing
5 g	0.0780	Direct-Reading Weighing
3 g	0.0423	Direct-Reading Weighing
2 g	0.0266	Direct-Reading Weighing

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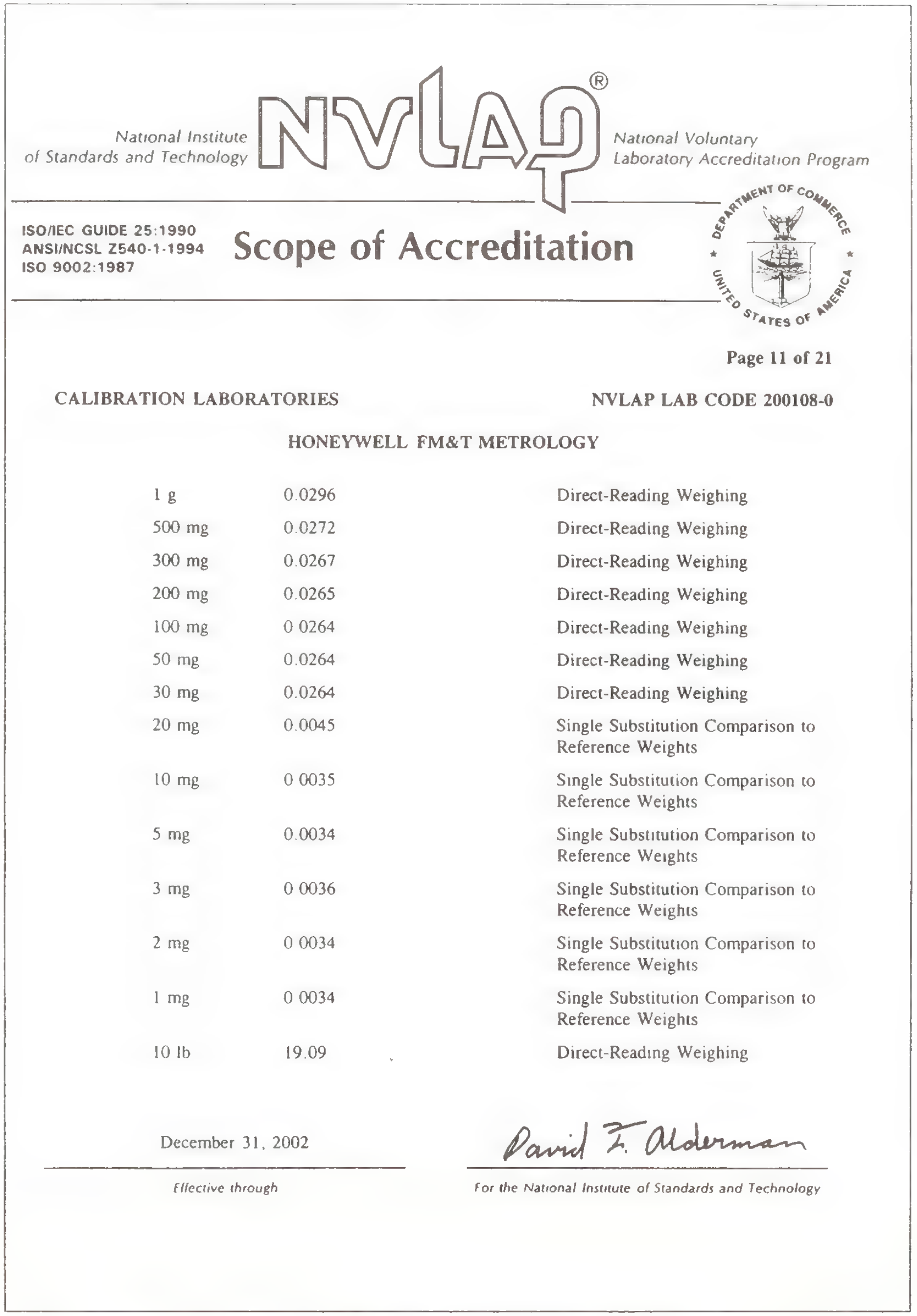

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HONEYWELL FM&T METROLOGY

1 g	0.0296	Direct-Reading Weighing
500 mg	0.0272	Direct-Reading Weighing
300 mg	0.0267	Direct-Reading Weighing
200 mg	0.0265	Direct-Reading Weighing
100 mg	0.0264	Direct-Reading Weighing
50 mg	0.0264	Direct-Reading Weighing
30 mg	0.0264	Direct-Reading Weighing
20 mg	0.0045	Single Substitution Comparison to Reference Weights
10 mg	0.0035	Single Substitution Comparison to Reference Weights
5 mg	0.0034	Single Substitution Comparison to Reference Weights
3 mg	0.0036	Single Substitution Comparison to Reference Weights
2 mg	0.0034	Single Substitution Comparison to Reference Weights
1 mg	0.0034	Single Substitution Comparison to Reference Weights
10 lb	19.09	Direct-Reading Weighing

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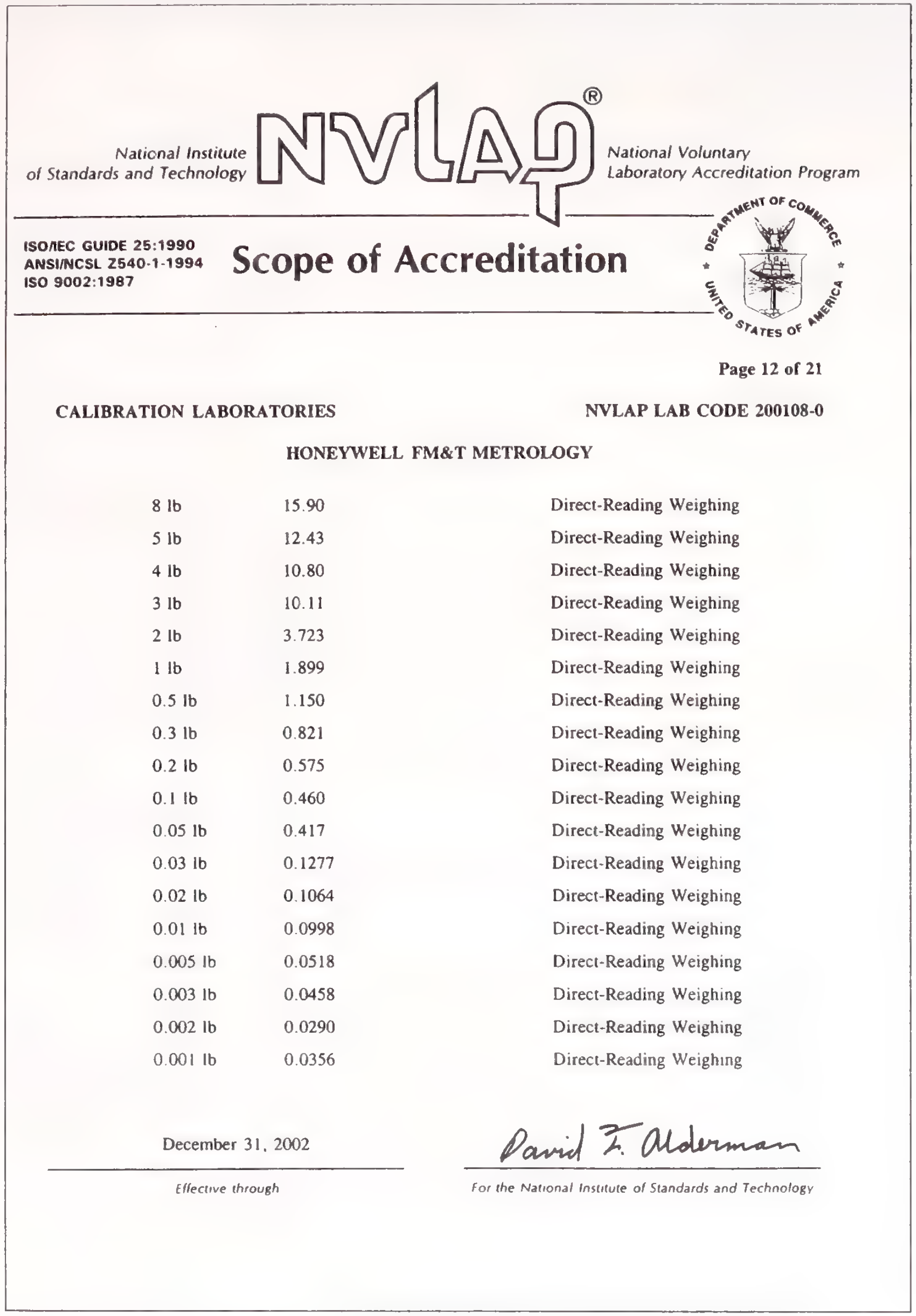

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HONEYWELL FM&T METROLOGY

8 lb	15.90	Direct-Reading Weighing
5 lb	12.43	Direct-Reading Weighing
4 lb	10.80	Direct-Reading Weighing
3 lb	10.11	Direct-Reading Weighing
2 lb	3.723	Direct-Reading Weighing
1 lb	1.899	Direct-Reading Weighing
0.5 lb	1.150	Direct-Reading Weighing
0.3 lb	0.821	Direct-Reading Weighing
0.2 lb	0.575	Direct-Reading Weighing
0.1 lb	0.460	Direct-Reading Weighing
0.05 lb	0.417	Direct-Reading Weighing
0.03 lb	0.1277	Direct-Reading Weighing
0.02 lb	0.1064	Direct-Reading Weighing
0.01 lb	0.0998	Direct-Reading Weighing
0.005 lb	0.0518	Direct-Reading Weighing
0.003 lb	0.0458	Direct-Reading Weighing
0.002 lb	0.0290	Direct-Reading Weighing
0.001 lb	0.0356	Direct-Reading Weighing

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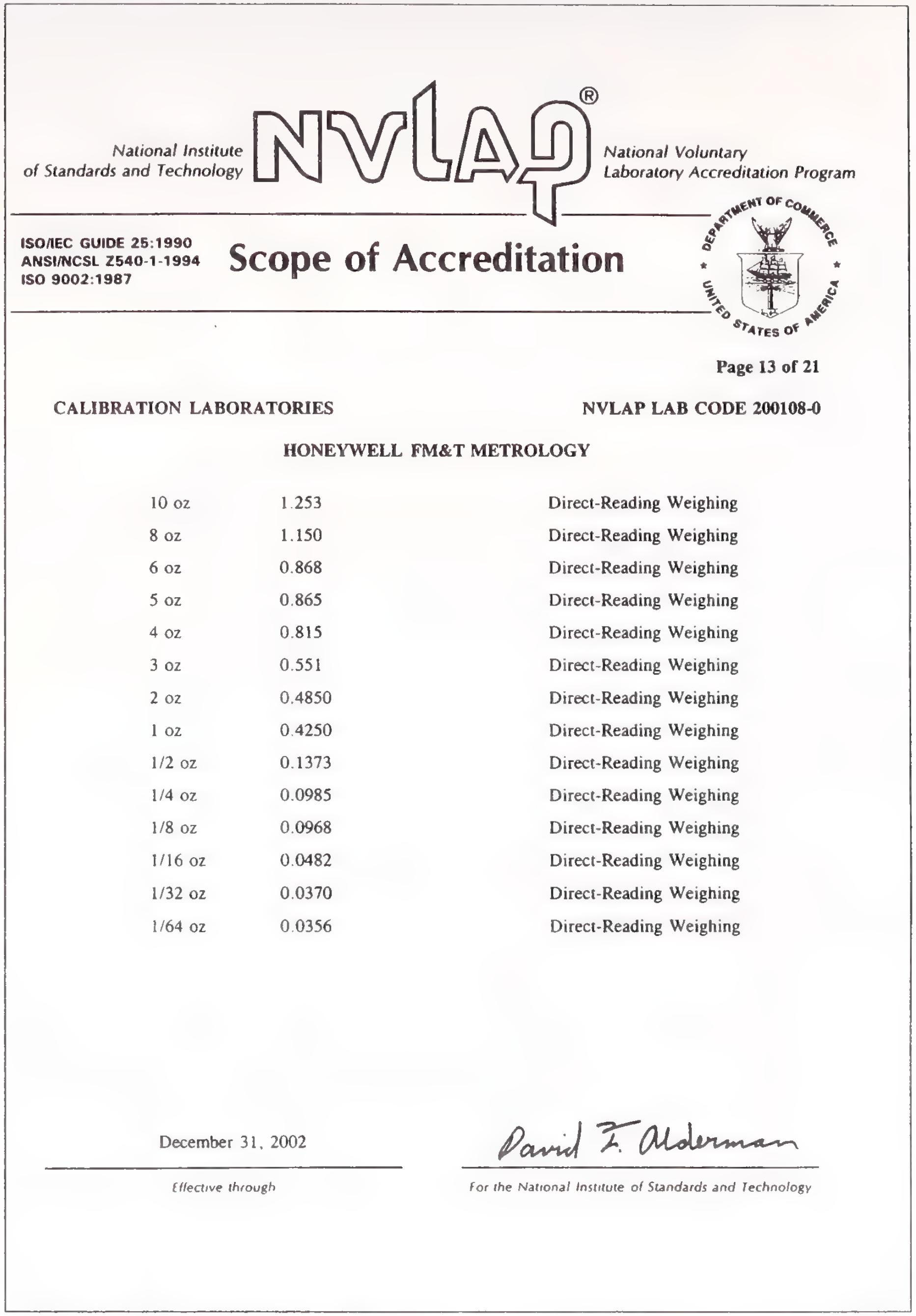

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HONEYWELL FM&T METROLOGY

10 oz	1.253	Direct-Reading Weighing
8 oz	1.150	Direct-Reading Weighing
6 oz	0.868	Direct-Reading Weighing
5 oz	0.865	Direct-Reading Weighing
4 oz	0.815	Direct-Reading Weighing
3 oz	0.551	Direct-Reading Weighing
2 oz	0.4850	Direct-Reading Weighing
1 oz	0.4250	Direct-Reading Weighing
1/2 oz	0.1373	Direct-Reading Weighing
1/4 oz	0.0985	Direct-Reading Weighing
1/8 oz	0.0968	Direct-Reading Weighing
1/16 oz	0.0482	Direct-Reading Weighing
1/32 oz	0.0370	Direct-Reading Weighing
1/64 oz	0.0356	Direct-Reading Weighing

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HONEYWELL FM&T METROLOGY

NVLAP Code: 20/M11
Vibration/Acceleration

	Range	*Best Uncertainty (±) in %*$^{note\ 1}$
	0.3 g @ 10 thru 40 Hz	2.5
	1 g @ 10 thru 100 Hz	2.5
	2 g @ 10 thru 100 Hz	2.5
	5 g @ 100 Hz	2.5
	10 g @ 30 thru < 100 Hz	2.5
	10 g @ 100 thru 2000 Hz	1.8
	10 g @ > 2000 thru 10000 Hz	2.5
Shock		
	10 thru 10000 g @ 10 thru 10000 Hz	3 5

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HONEYWELL FM&T METROLOGY

RF MICROWAVE

NVLAP Code: 20/R01
Coaxial Air Line Standards

Air Lines (Air-Dielectric)

			Best Uncertainty (±)$^{note\ 1}$ *Frequency (GHz)*		
Connector Type	*Quantity*	*Quantity Range*	*0.05 to 8.5*	*8.5 to 18.0*	*18.0 to 26.5*
GR-900	Impedance	50 Ω	0.028 - 0.050 Ω	---	---
APC-7	Impedance	50 Ω	0.044 - 0.080 Ω	0.060 - 0.096 Ω	---
N	Impedance	50 Ω	0.044 - 0.080 Ω	0.060 - 0.096 Ω	---
APC-3.5	Impedance	50 Ω	0.115 - 0.165 Ω	0.125 - 0.185 Ω	0.158 - 0.200 Ω
GR-900	Electrical Length	3 to 30 cm	0.0019 - 0.0081 cm	---	---
APC-7	Electrical Length	3 to 30 cm	0.0021 - 0.028 cm	0.0021 - 0.0041 cm	---
N	Electrical Length	3 to 15 cm	0.0021 - 0.014 cm	0.0021 - 0.0028 cm	
APC-3.5	Electrical Length	5 to 15 cm	0.0026 - 0.028 cm	0.0025 - 0.0036 cm	0.0025 - 0.0032 cm

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HONEYWELL FM&T METROLOGY

NVLAP Code: 20/R02
Coaxial/Waveguide Terminations

Reflection Coefficient (Scattering Parameter S_{11}) on the HP8510 Vector Automatic Network Analyzer

Connector Type	*Quantity*	*Quantity Range*	*Best Uncertainty (±)$^{note\ 1}$ Frequency (GHz)*		
			0.05 to 8.5	*8.5 to 18.0*	*18.0 to 26.5*
GR-900	$\|S_{11}\|$	0 to 1	0.002 - 0.005	---	---
APC-7	$\|S_{11}\|$	0 to 1	0.0025 - 0.004	0.004 - 0.006	---
N	$\|S_{11}\|$	0 to 1	0.0045 - 0.018	0.012 - 0.030	---
APC-3.5	$\|S_{11}\|$	0 to 1	0.0045 - 0.0055	0.0055 - 0.008	0.008 - 0.009
GR-900	ARG (S_{11})	-180 to 180°, $0 < \|S_{11}\| < 1$	0.35 - 180°	---	---
APC-7	ARG (S_{11})	-180 to 180°, $0 < \|S_{11}\| < 1$	0.35 - 180°	0.50 - 180°	---
N	ARG (S_{11})	-180 to 180°, $0 < \|S_{11}\| < 1$	1.0 - 180°	6.50 -180°	---
APC-3.5	ARG (S_{11})	-180 to 180°, $0 < \|S_{11}\| < 1$	0.40 - 180°	0.55 - 180°	1.15 - 180°

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HONEYWELL FM&T METROLOGY

NVLAP Code: 20/R02
Coaxial/Waveguide Terminations

Reflection Coefficient (Scattering Parameter S_{11}) on HP8753 Vector Automatic Network Analyzer

Connector Type	*Quantity*	*Quantity Range*	*Best Uncertainty (±)$^{note\ 1}$ Frequency (MHz)*	
			0.30 to 100	*100 to 3000*
GR-900	$\|S_{11}\|$	0 to 1	0.004 - 0.005	0.005 - 0.035
APC-7	$\|S_{11}\|$	0 to 1	0.0025 - 0.0075	0.0025 - 0.0075
N	$\|S_{11}\|$	0 to 1	0.0045 - 0.012	0.0055 - 0.015
APC-3.5	$\|S_{11}\|$	0 to 1	---	0.0045 - 0.018
GR-900	ARG (S_{11})	-180 to 180°, $0 < \|S_{11}\| < 1$	0.50 -180°	0.55 - 180°
APC-7	ARG (S_{11})	-180 to 180°, $0 < \|S_{11}\| < 1$	0.50 -180°	0.50 - 180°
N	ARG (S_{11})	-180 to 180°, $0 < \|S_{11}\| < 1$	0.50 -180°	3.0 - 180°
APC-3.5	ARG (S_{11})	-180 to 180°, $0 < \|S_{11}\| < 1$	---	0.50 - 180°

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NVLAP Code: 20/R12
RF/Microwave Bolometer Units

Thermistor Mounts at Type N Connector

Quantity	*Power Level Range*	*Quantity Range*	*Best Uncertainty* $(\pm)^{note\ 1}$ *Frequency* *1 to 1000 MHz*	*1.0 to 8.5 GHz*
Calibration Factor	-10 to 10 dB	0.9 to 1.0	0.75 - 2.3%	1.0 - 3.1%

NVLAP Code: 20/R13
RF/Microwave Attenuators

Attenuation (Scattering Parameter S_{11}) on the HP8510 Vector Automatic Network Analyzer

			Best Uncertainty $(\pm)^{note\ 1}$ *Frequency (GHz)*		
Connector Type	*Quantity*	*Quantity Range*	*0.05 to 8.5*	*8.5 to 18.0*	*18.0 to 26.5*
APC-7	$\vert S_{11}\vert$	0 to 60 dB	0.02 - 0.50 dB	0.034 - 0.30 dB	---
APC-3.5	$\vert S_{11}\vert$	0 to 60 dB	0.02 - 0.50 dB	0.031 - 0.29 dB	0.044 - 0.37 dB

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HONEYWELL FM&T METROLOGY

NVLAP Code: 20/R13
RF/Microwave Attenuators

Attenuation (Scattering Parameter S_{11}) on the HP8753 Vector Automatic Network Analyzer

Connector Type	*Quantity*	*Quantity Range*	*Best Uncertainty* $(\pm)^{note\ 1}$ *Frequency (MHz)* *0.30 to 3000*
APC-7	$\vert S_{11}\vert$	0 to 60 dB	0.02 - 0.40 dB

NVLAP Code: 20/R16
Group Delay

Connector Type	*Delay (ns)*	*Best Uncertainty* $(\pm)^{note\ 1}$ *Frequency (GHz)* *0.05 to 2.0*
GR-900, APC-7, N, APC-3.5	1 to 1200	0.005 - 0.5

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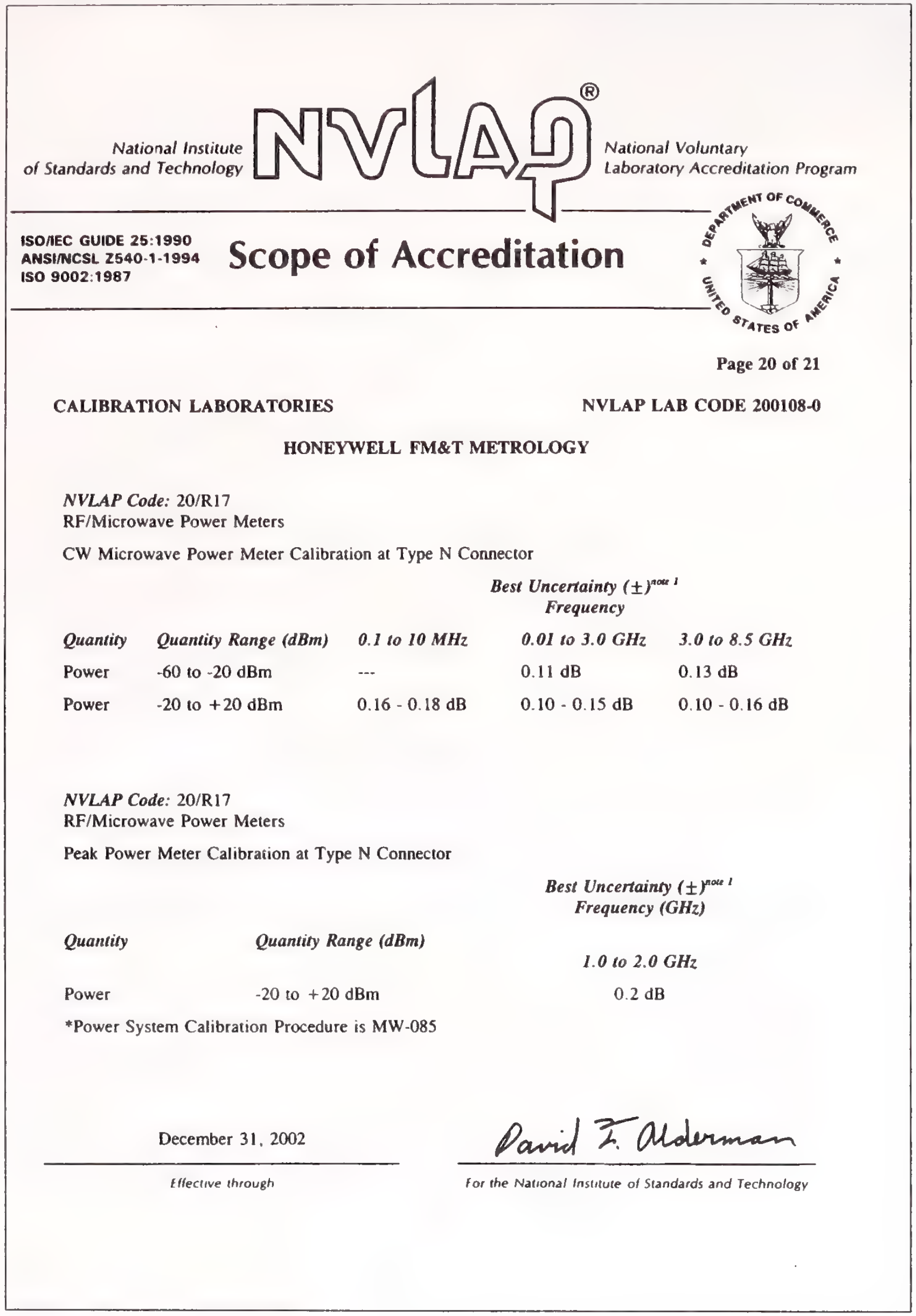

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CALIBRATION LABORATORIES **NVLAP LAB CODE 200108-0**

HONEYWELL FM&T METROLOGY

NVLAP Code: 20/R17
RF/Microwave Power Meters

CW Microwave Power Meter Calibration at Type N Connector

		Best Uncertainty (±)$^{\text{note 1}}$ *Frequency*		
Quantity	*Quantity Range (dBm)*	*0.1 to 10 MHz*	*0.01 to 3.0 GHz*	*3.0 to 8.5 GHz*
Power	-60 to -20 dBm	---	0.11 dB	0.13 dB
Power	-20 to +20 dBm	0.16 - 0.18 dB	0.10 - 0.15 dB	0.10 - 0.16 dB

NVLAP Code: 20/R17
RF/Microwave Power Meters

Peak Power Meter Calibration at Type N Connector

Quantity	*Quantity Range (dBm)*	*Best Uncertainty* (±)$^{\text{note 1}}$ *Frequency (GHz)* *1.0 to 2.0 GHz*
Power	-20 to +20 dBm	0.2 dB

*Power System Calibration Procedure is MW-085

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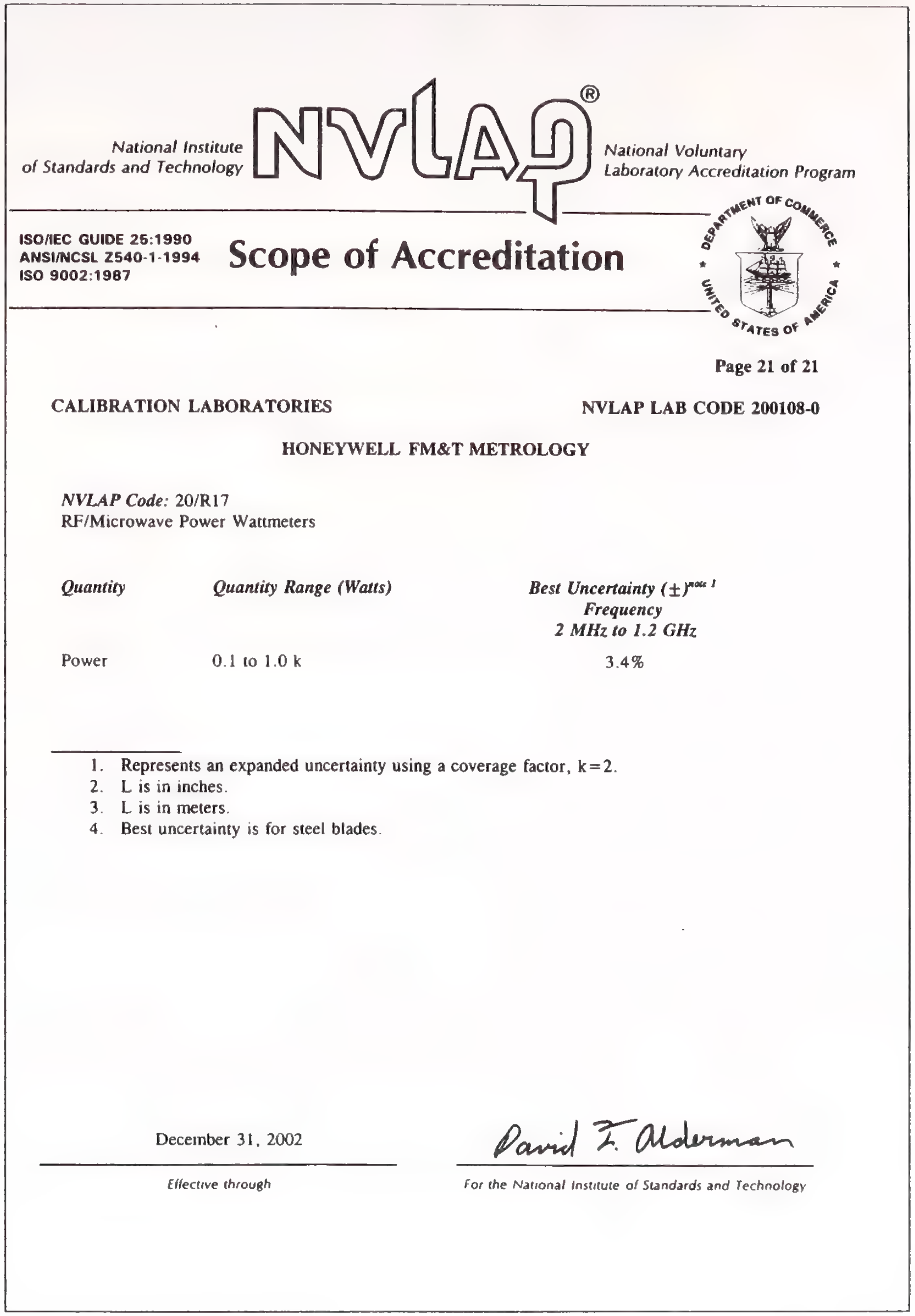

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CALIBRATION LABORATORIES **NVLAP LAB CODE 200108-0**

HONEYWELL FM&T METROLOGY

NVLAP Code: 20/R17
RF/Microwave Power Wattmeters

Quantity	*Quantity Range (Watts)*	*Best Uncertainty* (±)$^{\text{note 1}}$ *Frequency* *2 MHz to 1.2 GHz*
Power	0.1 to 1.0 k	3.4%

---

1. Represents an expanded uncertainty using a coverage factor, k=2.
2. L is in inches.
3. L is in meters.
4. Best uncertainty is for steel blades.

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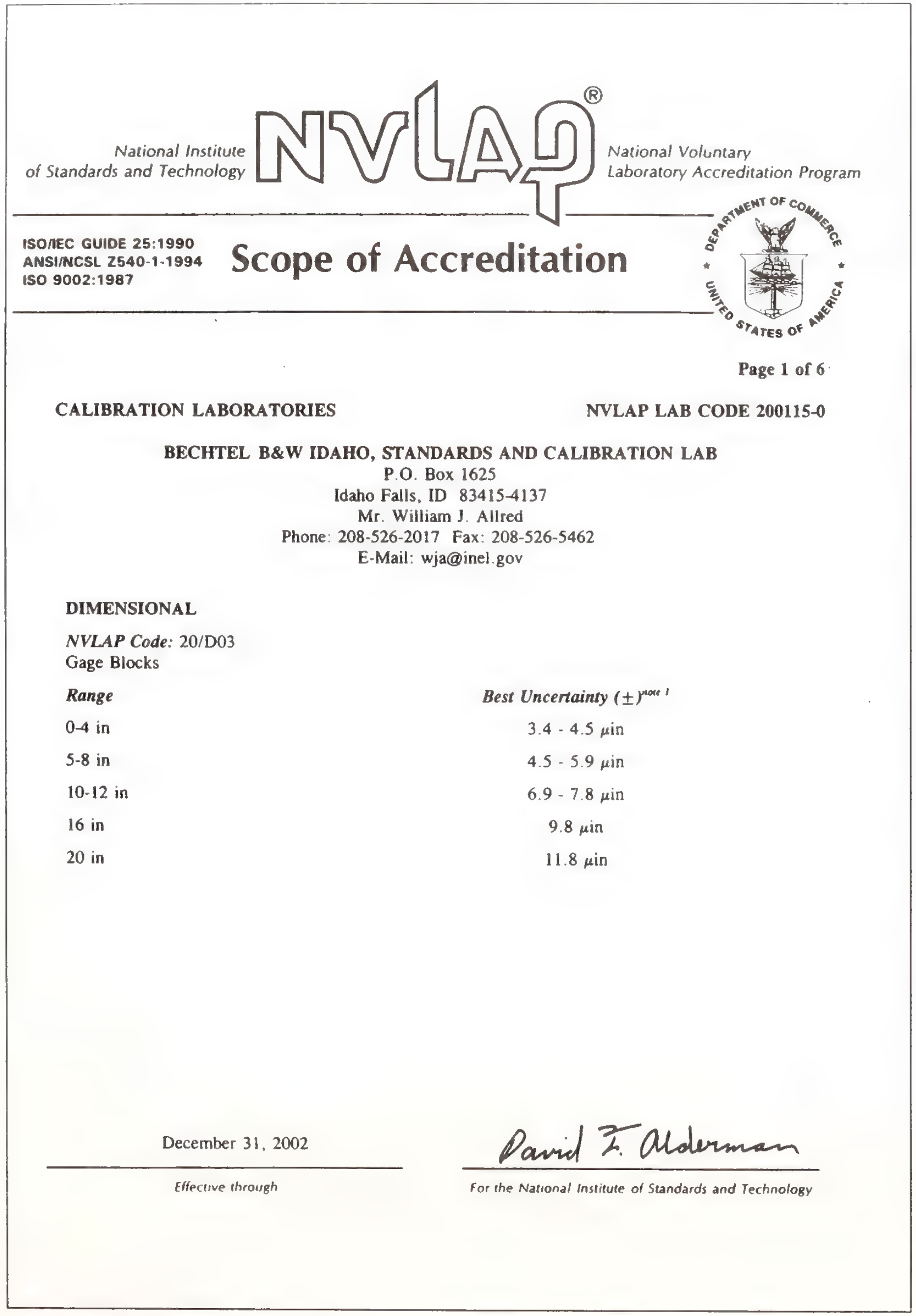

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CALIBRATION LABORATORIES **NVLAP LAB CODE 200115-0**

BECHTEL B&W IDAHO, STANDARDS AND CALIBRATION LAB
P.O. Box 1625
Idaho Falls, ID 83415-4137
Mr. William J. Allred
Phone: 208-526-2017 Fax: 208-526-5462
E-Mail: wja@inel.gov

DIMENSIONAL

NVLAP Code: 20/D03
Gage Blocks

Range	*Best Uncertainty* ($\pm$)$^{note\ 1}$
0-4 in	3.4 - 4.5 µin
5-8 in	4.5 - 5.9 µin
10-12 in	6.9 - 7.8 µin
16 in	9.8 µin
20 in	11.8 µin

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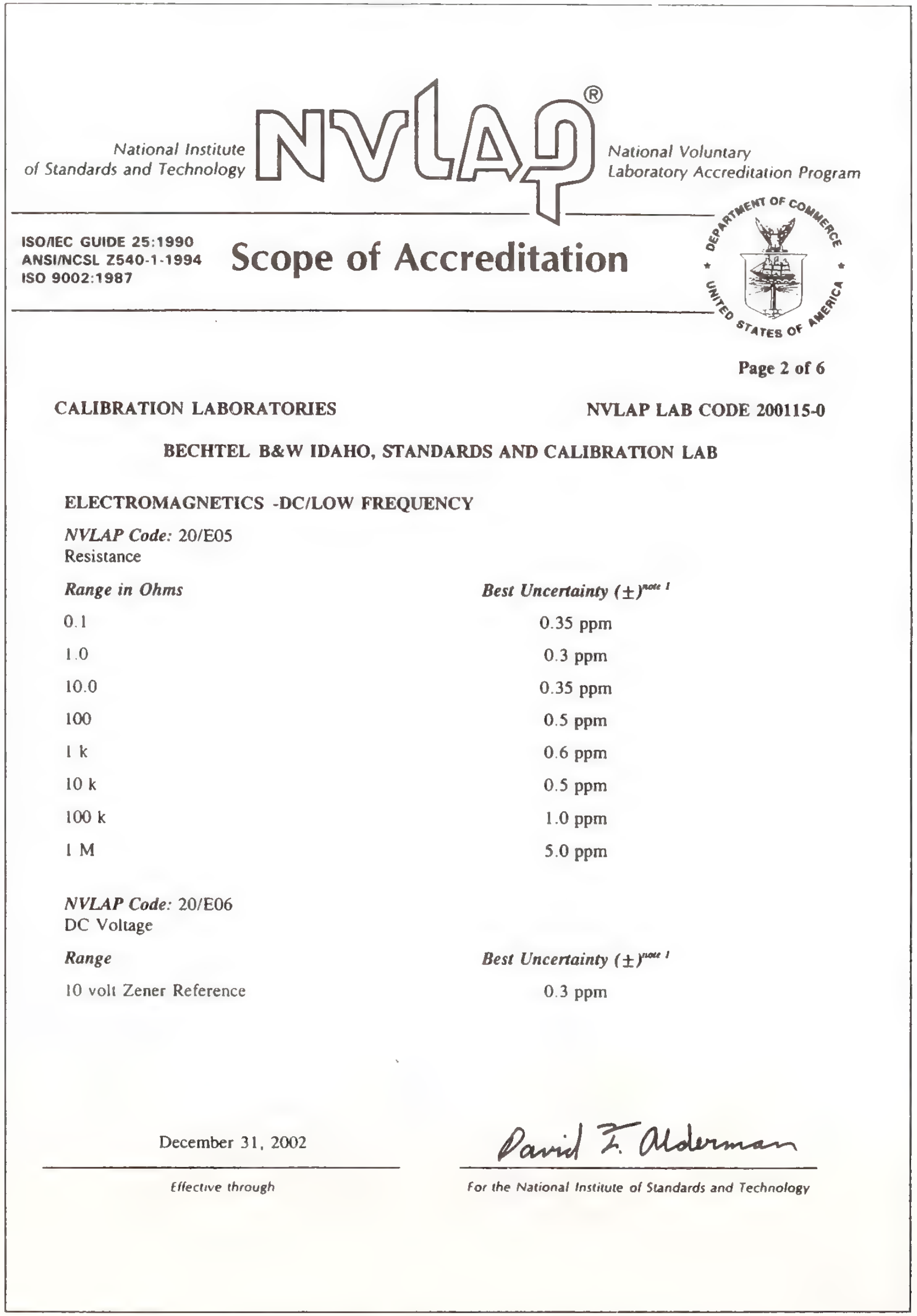

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CALIBRATION LABORATORIES **NVLAP LAB CODE 200115-0**

BECHTEL B&W IDAHO, STANDARDS AND CALIBRATION LAB

ELECTROMAGNETICS -DC/LOW FREQUENCY

NVLAP Code: 20/E05
Resistance

Range in Ohms	*Best Uncertainty* ($\pm$)$^{note\ 1}$
0.1	0.35 ppm
1.0	0.3 ppm
10.0	0.35 ppm
100	0.5 ppm
1 k	0.6 ppm
10 k	0.5 ppm
100 k	1.0 ppm
1 M	5.0 ppm

NVLAP Code: 20/E06
DC Voltage

Range	*Best Uncertainty* ($\pm$)$^{note\ 1}$
10 volt Zener Reference	0.3 ppm

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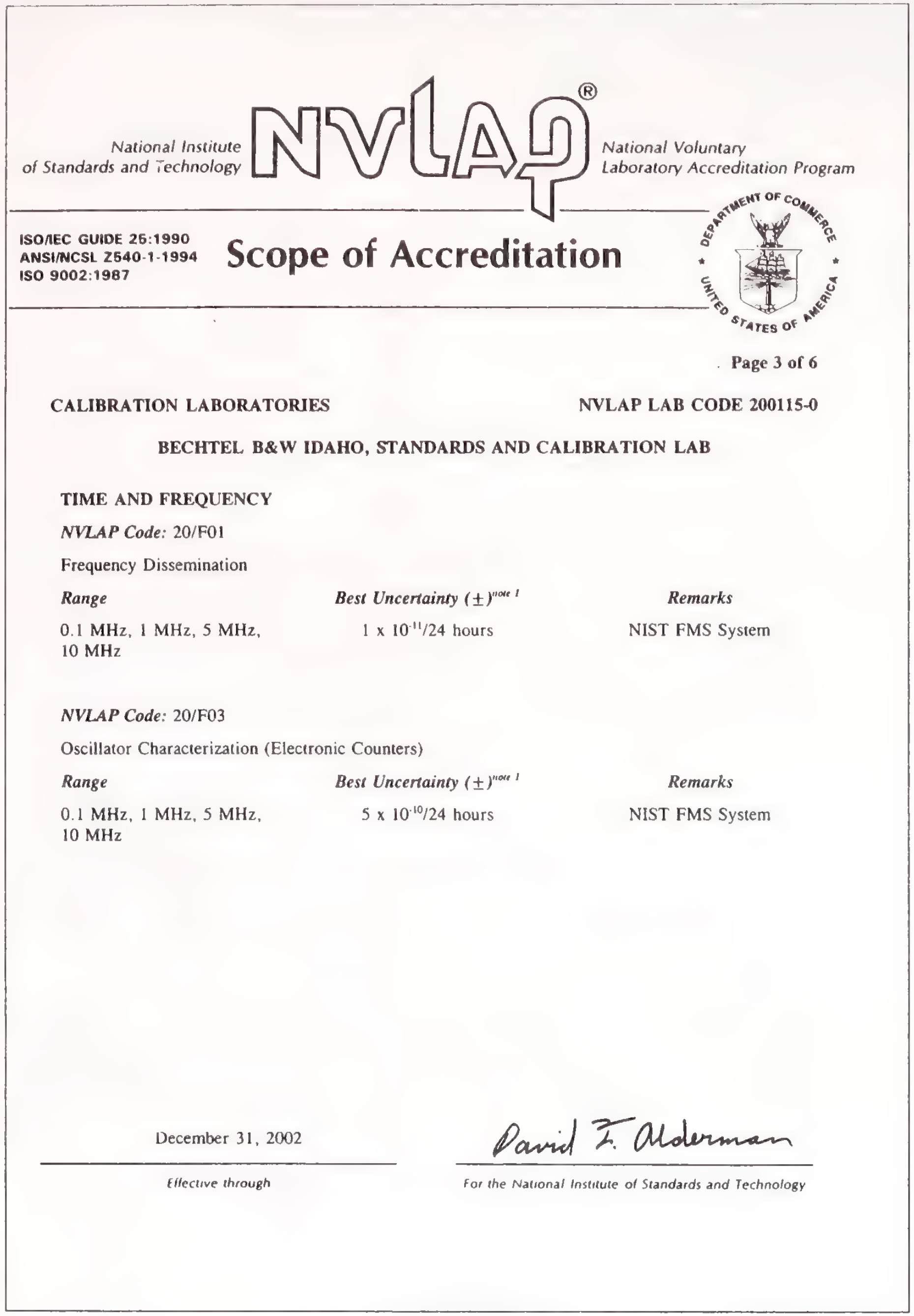

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CALIBRATION LABORATORIES NVLAP LAB CODE 200115-0

BECHTEL B&W IDAHO, STANDARDS AND CALIBRATION LAB

TIME AND FREQUENCY

NVLAP Code: 20/F01

Frequency Dissemination

Range	*Best Uncertainty* (±)$^{\text{note 1}}$	*Remarks*
0.1 MHz, 1 MHz, 5 MHz, 10 MHz	1 x 10^{-11}/24 hours	NIST FMS System

NVLAP Code: 20/F03

Oscillator Characterization (Electronic Counters)

Range	*Best Uncertainty* (±)$^{\text{note 1}}$	*Remarks*
0.1 MHz, 1 MHz, 5 MHz, 10 MHz	5 x 10^{-10}/24 hours	NIST FMS System

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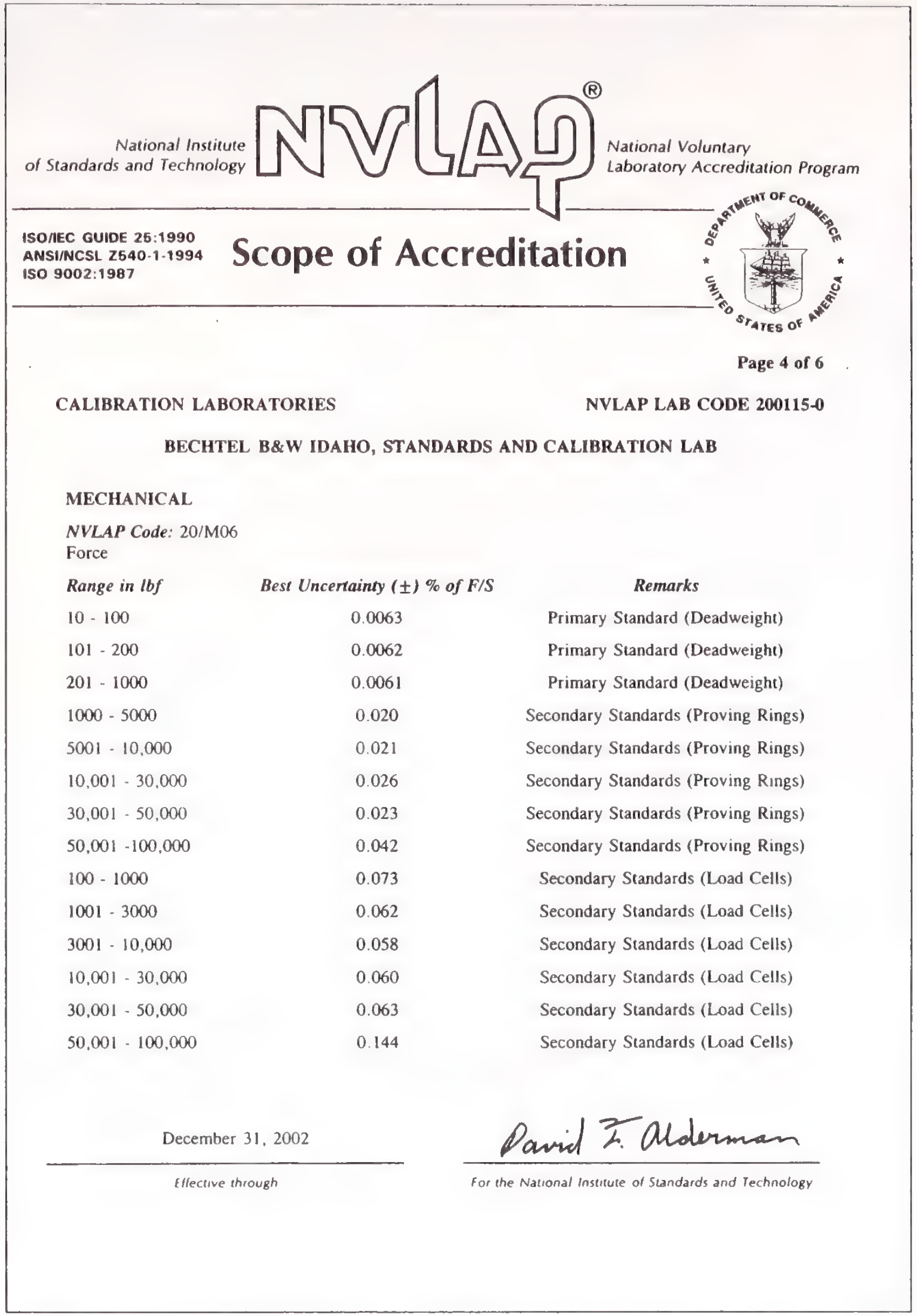

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BECHTEL B&W IDAHO, STANDARDS AND CALIBRATION LAB

MECHANICAL

NVLAP Code: 20/M06
Force

Range in lbf	*Best Uncertainty* (±) *% of F/S*	*Remarks*
10 - 100	0.0063	Primary Standard (Deadweight)
101 - 200	0.0062	Primary Standard (Deadweight)
201 - 1000	0.0061	Primary Standard (Deadweight)
1000 - 5000	0.020	Secondary Standards (Proving Rings)
5001 - 10,000	0.021	Secondary Standards (Proving Rings)
10,001 - 30,000	0.026	Secondary Standards (Proving Rings)
30,001 - 50,000	0.023	Secondary Standards (Proving Rings)
50,001 -100,000	0.042	Secondary Standards (Proving Rings)
100 - 1000	0.073	Secondary Standards (Load Cells)
1001 - 3000	0.062	Secondary Standards (Load Cells)
3001 - 10,000	0.058	Secondary Standards (Load Cells)
10,001 - 30,000	0.060	Secondary Standards (Load Cells)
30,001 - 50,000	0.063	Secondary Standards (Load Cells)
50,001 - 100,000	0.144	Secondary Standards (Load Cells)

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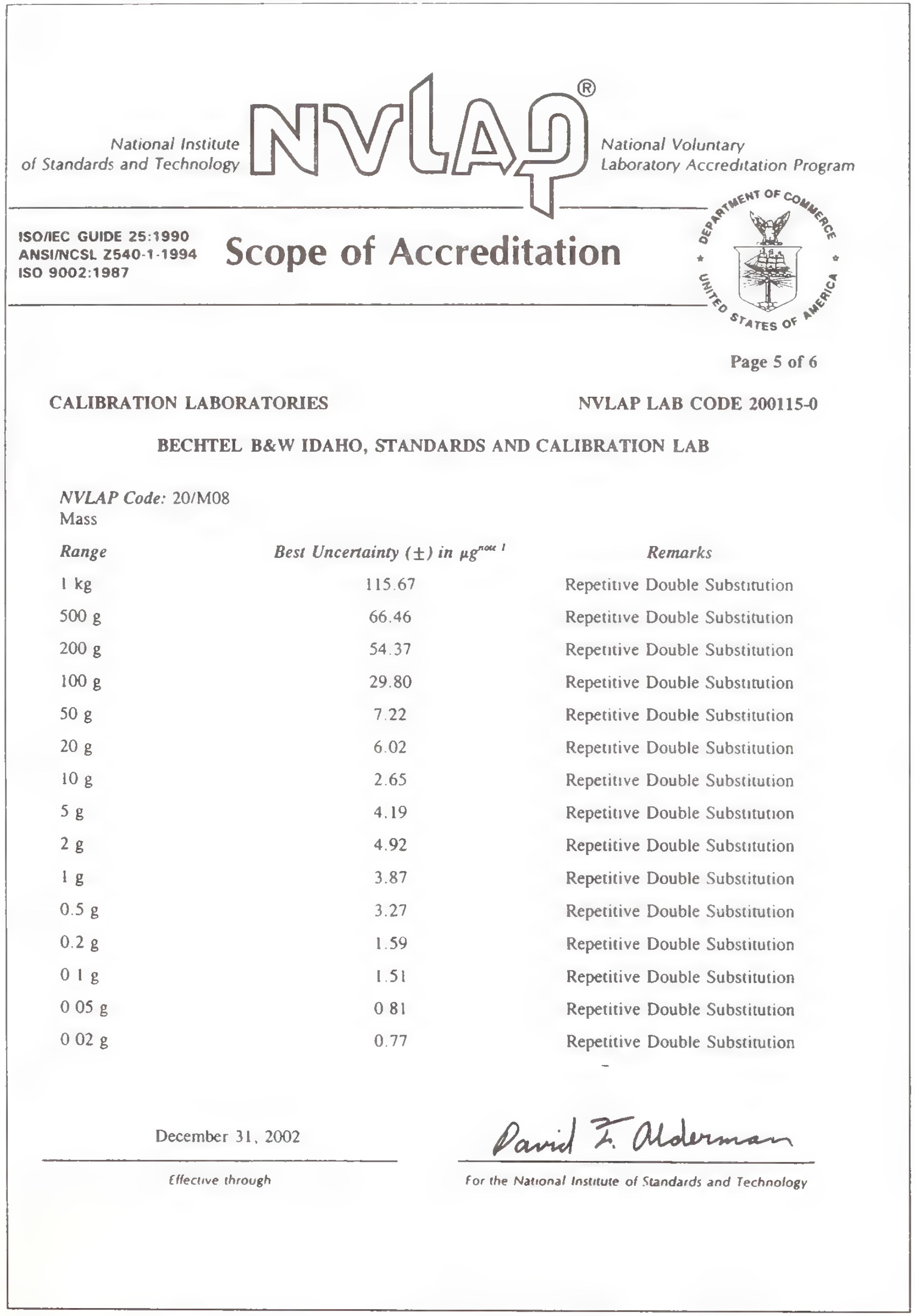

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NVLAP Code: 20/M08
Mass

Range	*Best Uncertainty* (±) *in* µg^note 1	*Remarks*
1 kg	115.67	Repetitive Double Substitution
500 g	66.46	Repetitive Double Substitution
200 g	54.37	Repetitive Double Substitution
100 g	29.80	Repetitive Double Substitution
50 g	7.22	Repetitive Double Substitution
20 g	6.02	Repetitive Double Substitution
10 g	2.65	Repetitive Double Substitution
5 g	4.19	Repetitive Double Substitution
2 g	4.92	Repetitive Double Substitution
1 g	3.87	Repetitive Double Substitution
0.5 g	3.27	Repetitive Double Substitution
0.2 g	1.59	Repetitive Double Substitution
0 1 g	1.51	Repetitive Double Substitution
0 05 g	0 81	Repetitive Double Substitution
0 02 g	0.77	Repetitive Double Substitution

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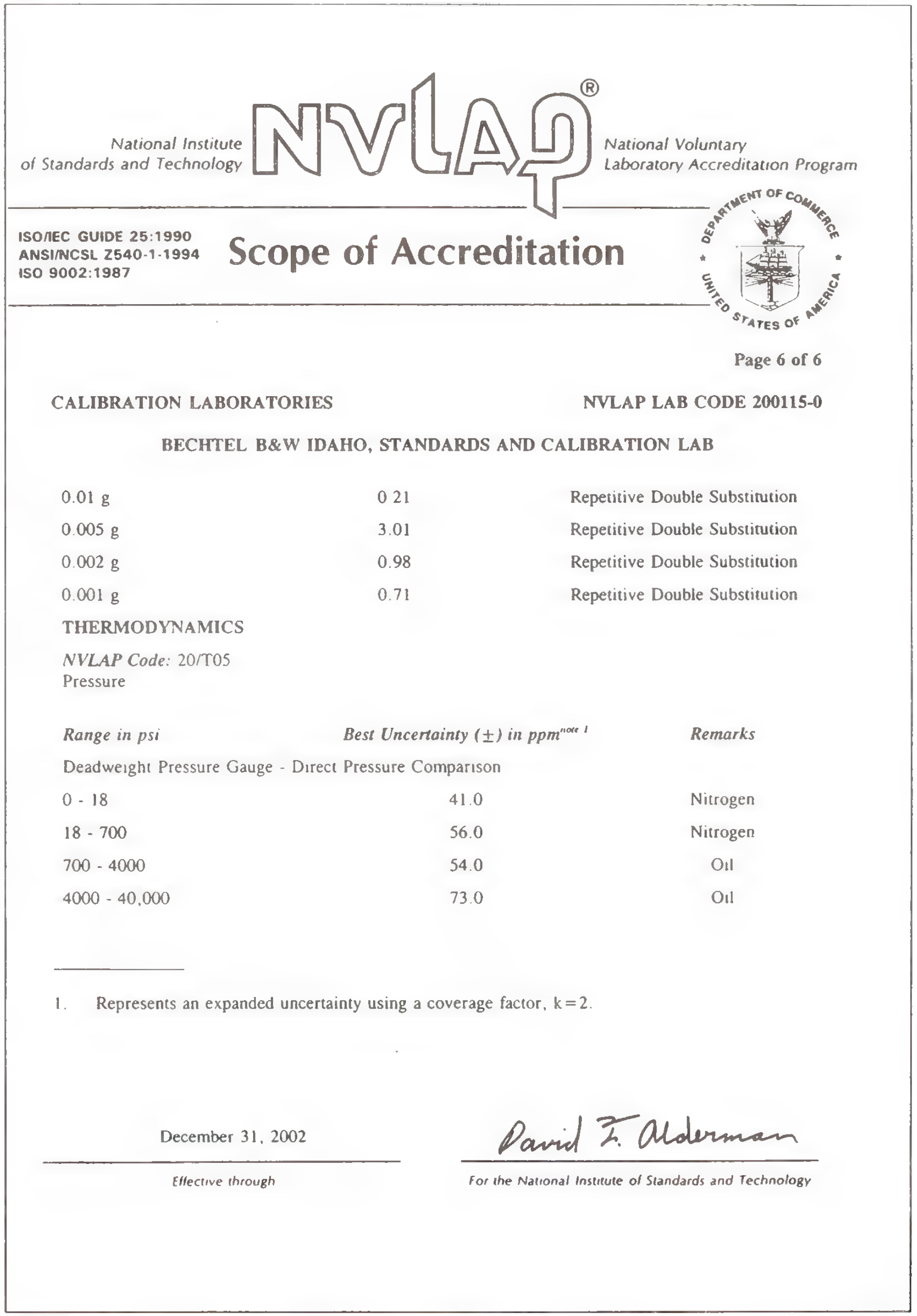

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CALIBRATION LABORATORIES NVLAP LAB CODE 200115-0

BECHTEL B&W IDAHO, STANDARDS AND CALIBRATION LAB

0.01 g	0 21	Repetitive Double Substitution
0.005 g	3.01	Repetitive Double Substitution
0.002 g	0.98	Repetitive Double Substitution
0.001 g	0.71	Repetitive Double Substitution

THERMODYNAMICS

NVLAP Code: 20/T05
Pressure

Range in psi	*Best Uncertainty* (±) *in ppm*^note 1	*Remarks*
Deadweight Pressure Gauge - Direct Pressure Comparison		
0 - 18	41.0	Nitrogen
18 - 700	56.0	Nitrogen
700 - 4000	54.0	Oil
4000 - 40,000	73.0	Oil

---

1. Represents an expanded uncertainty using a coverage factor, k=2.

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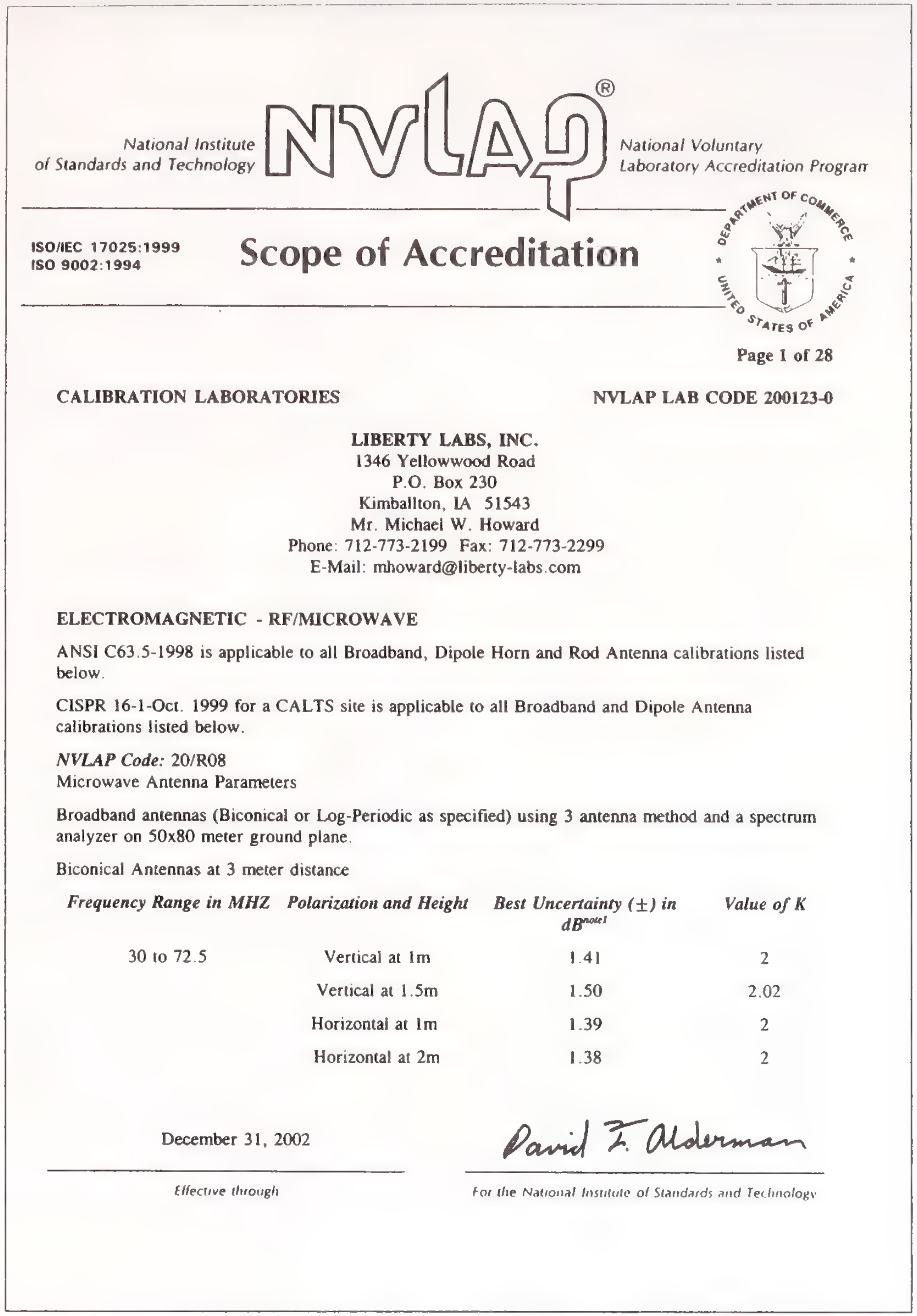

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CALIBRATION LABORATORIES **NVLAP LAB CODE 200123-0**

LIBERTY LABS, INC.
1346 Yellowwood Road
P.O. Box 230
Kimballton, IA 51543
Mr. Michael W. Howard
Phone: 712-773-2199 Fax: 712-773-2299
E-Mail: mhoward@liberty-labs.com

ELECTROMAGNETIC - RF/MICROWAVE

ANSI C63.5-1998 is applicable to all Broadband, Dipole Horn and Rod Antenna calibrations listed below.

CISPR 16-1-Oct. 1999 for a CALTS site is applicable to all Broadband and Dipole Antenna calibrations listed below.

NVLAP Code: 20/R08
Microwave Antenna Parameters

Broadband antennas (Biconical or Log-Periodic as specified) using 3 antenna method and a spectrum analyzer on 50x80 meter ground plane.

Biconical Antennas at 3 meter distance

Frequency Range in MHZ	*Polarization and Height*	*Best Uncertainty (±) in dB^{note1}*	*Value of K*
30 to 72.5	Vertical at 1m	1.41	2
	Vertical at 1.5m	1.50	2.02
	Horizontal at 1m	1.39	2
	Horizontal at 2m	1.38	2

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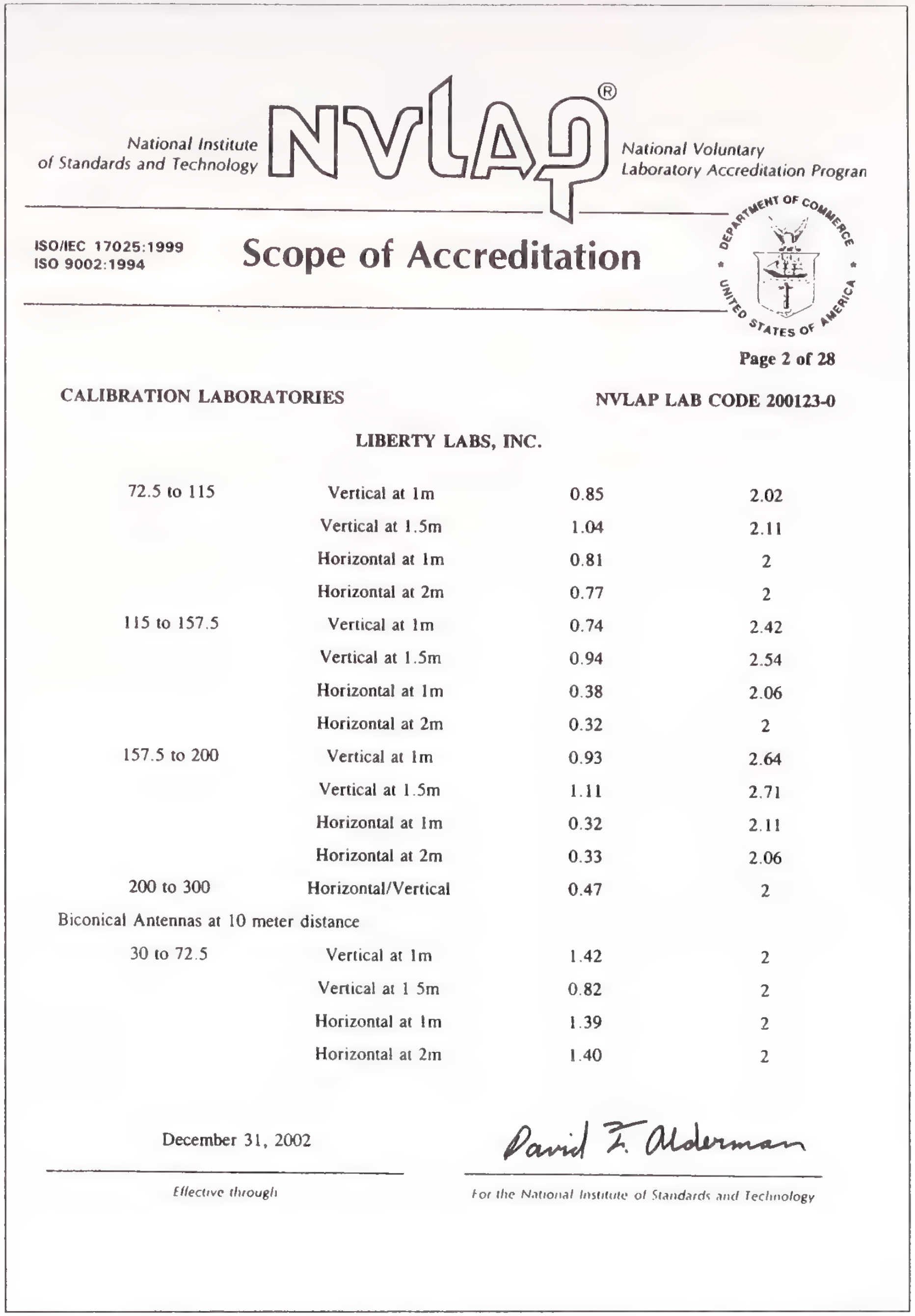

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72.5 to 115	Vertical at 1m	0.85	2.02
	Vertical at 1.5m	1.04	2.11
	Horizontal at 1m	0.81	2
	Horizontal at 2m	0.77	2
115 to 157.5	Vertical at 1m	0.74	2.42
	Vertical at 1.5m	0.94	2.54
	Horizontal at 1m	0.38	2.06
	Horizontal at 2m	0.32	2
157.5 to 200	Vertical at 1m	0.93	2.64
	Vertical at 1.5m	1.11	2.71
	Horizontal at 1m	0.32	2.11
	Horizontal at 2m	0.33	2.06
200 to 300	Horizontal/Vertical	0.47	2

Biconical Antennas at 10 meter distance

30 to 72.5	Vertical at 1m	1.42	2
	Vertical at 1 5m	0.82	2
	Horizontal at 1m	1.39	2
	Horizontal at 2m	1.40	2

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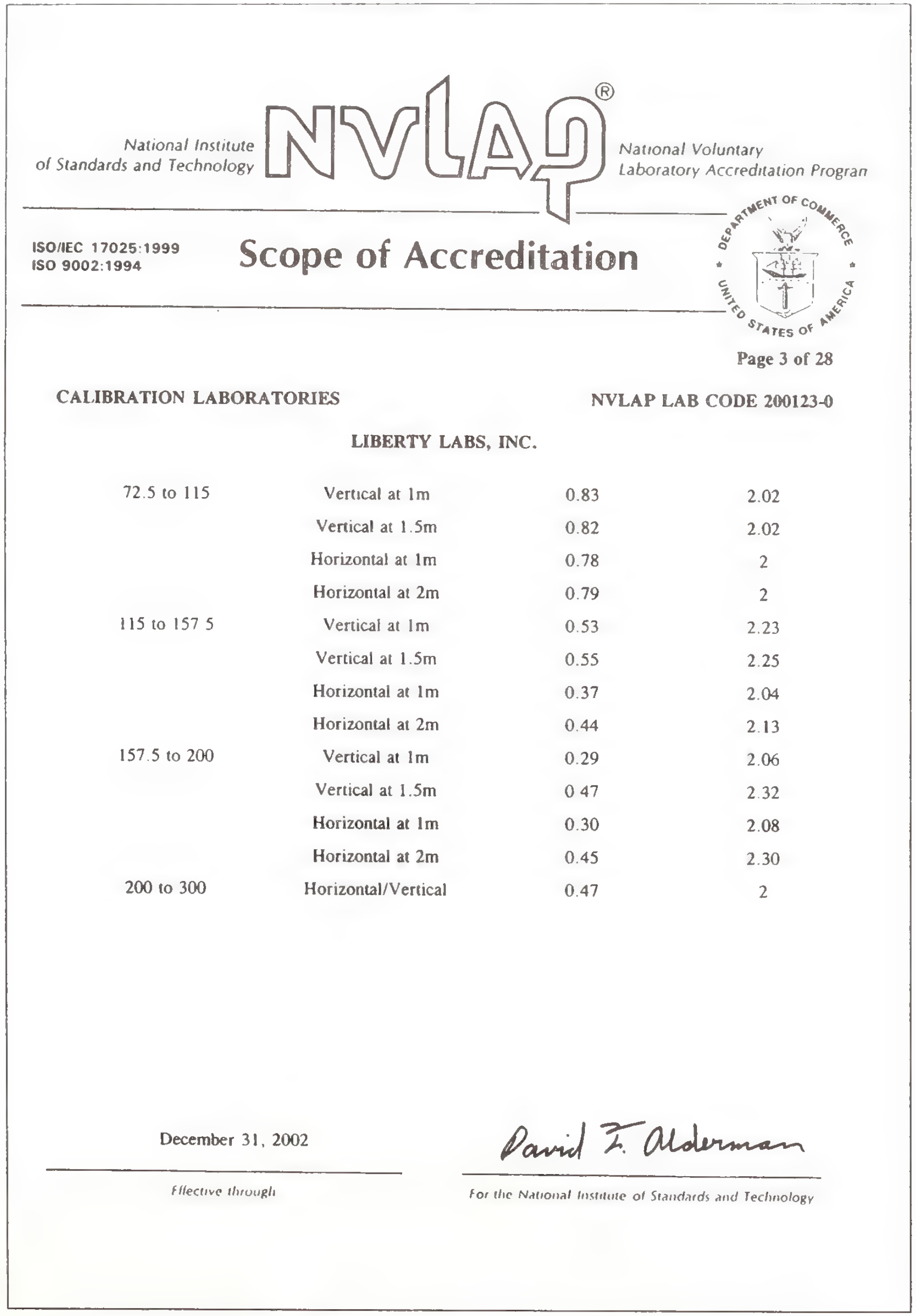

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LIBERTY LABS, INC.

72.5 to 115	Vertical at 1m	0.83	2.02
	Vertical at 1.5m	0.82	2.02
	Horizontal at 1m	0.78	2
	Horizontal at 2m	0.79	2
115 to 157 5	Vertical at 1m	0.53	2.23
	Vertical at 1.5m	0.55	2.25
	Horizontal at 1m	0.37	2.04
	Horizontal at 2m	0.44	2.13
157.5 to 200	Vertical at 1m	0.29	2.06
	Vertical at 1.5m	0 47	2.32
	Horizontal at 1m	0.30	2.08
	Horizontal at 2m	0.45	2.30
200 to 300	Horizontal/Vertical	0.47	2

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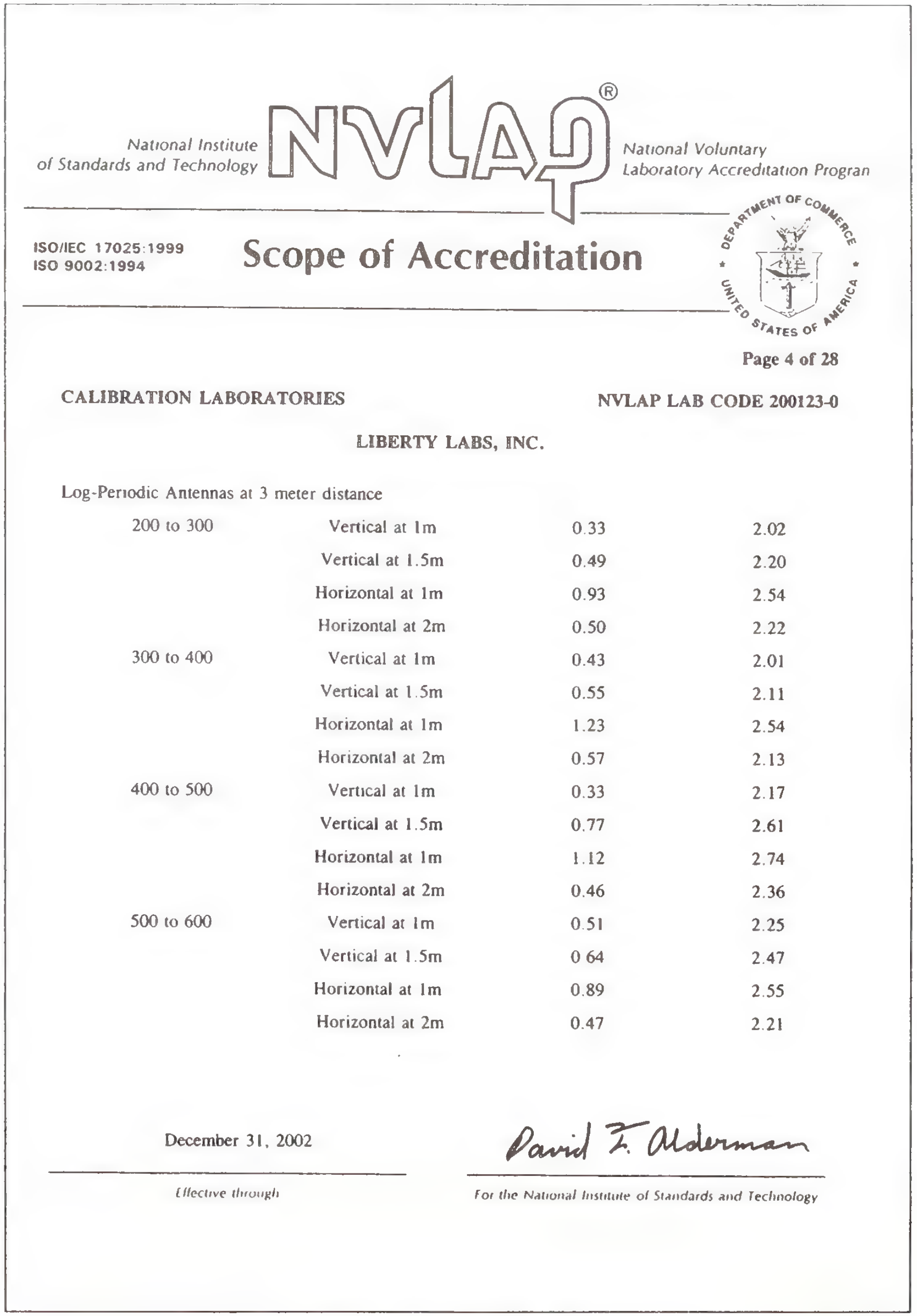

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LIBERTY LABS, INC.

Log-Periodic Antennas at 3 meter distance

200 to 300	Vertical at 1m	0.33	2.02
	Vertical at 1.5m	0.49	2.20
	Horizontal at 1m	0.93	2.54
	Horizontal at 2m	0.50	2.22
300 to 400	Vertical at 1m	0.43	2.01
	Vertical at 1.5m	0.55	2.11
	Horizontal at 1m	1.23	2.54
	Horizontal at 2m	0.57	2.13
400 to 500	Vertical at 1m	0.33	2.17
	Vertical at 1.5m	0.77	2.61
	Horizontal at 1m	1.12	2.74
	Horizontal at 2m	0.46	2.36
500 to 600	Vertical at 1m	0.51	2.25
	Vertical at 1.5m	0 64	2.47
	Horizontal at 1m	0.89	2.55
	Horizontal at 2m	0.47	2.21

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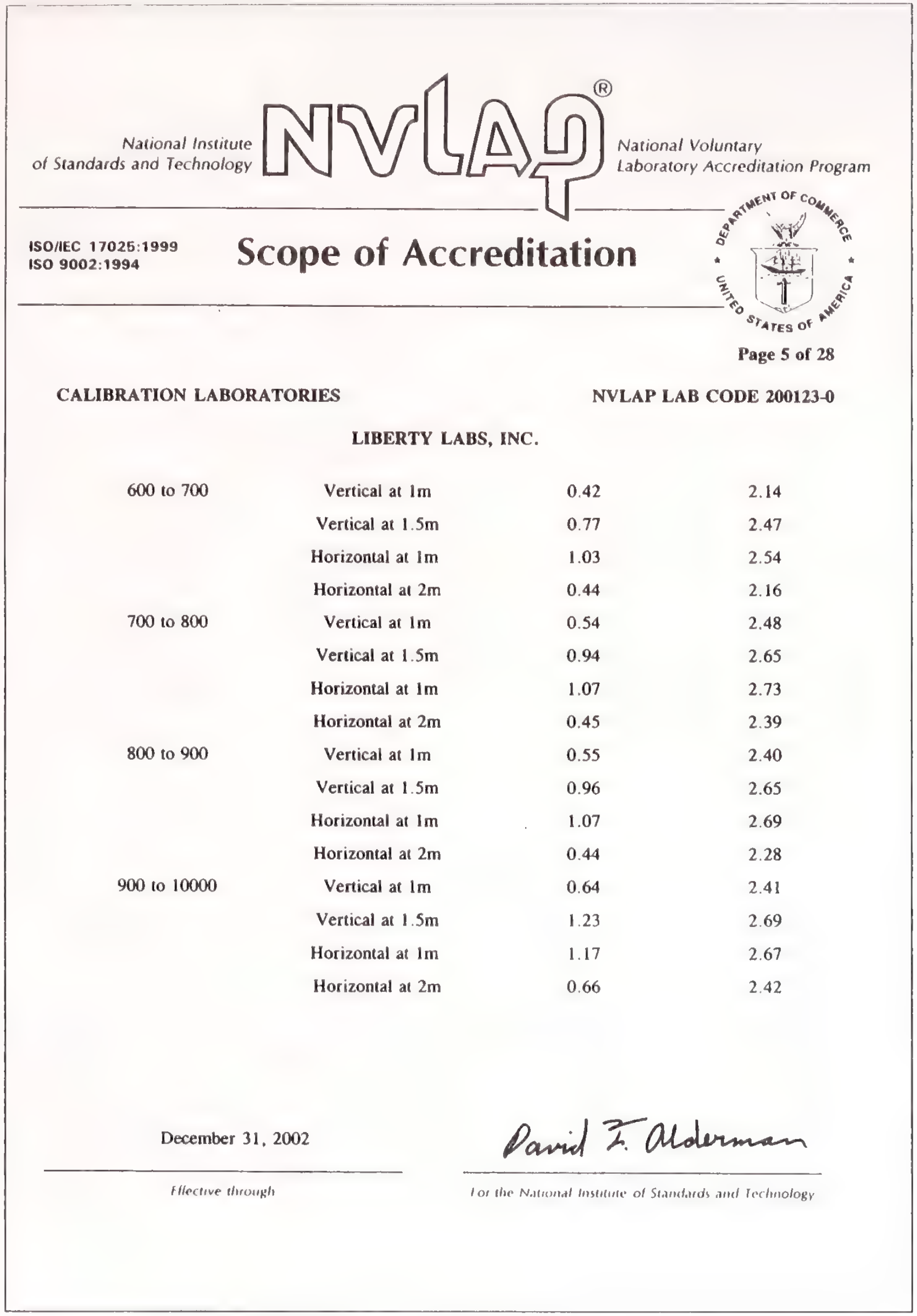

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LIBERTY LABS, INC.

600 to 700	Vertical at 1m	0.42	2.14
	Vertical at 1.5m	0.77	2.47
	Horizontal at 1m	1.03	2.54
	Horizontal at 2m	0.44	2.16
700 to 800	Vertical at 1m	0.54	2.48
	Vertical at 1.5m	0.94	2.65
	Horizontal at 1m	1.07	2.73
	Horizontal at 2m	0.45	2.39
800 to 900	Vertical at 1m	0.55	2.40
	Vertical at 1.5m	0.96	2.65
	Horizontal at 1m	1.07	2.69
	Horizontal at 2m	0.44	2.28
900 to 10000	Vertical at 1m	0.64	2.41
	Vertical at 1.5m	1.23	2.69
	Horizontal at 1m	1.17	2.67
	Horizontal at 2m	0.66	2.42

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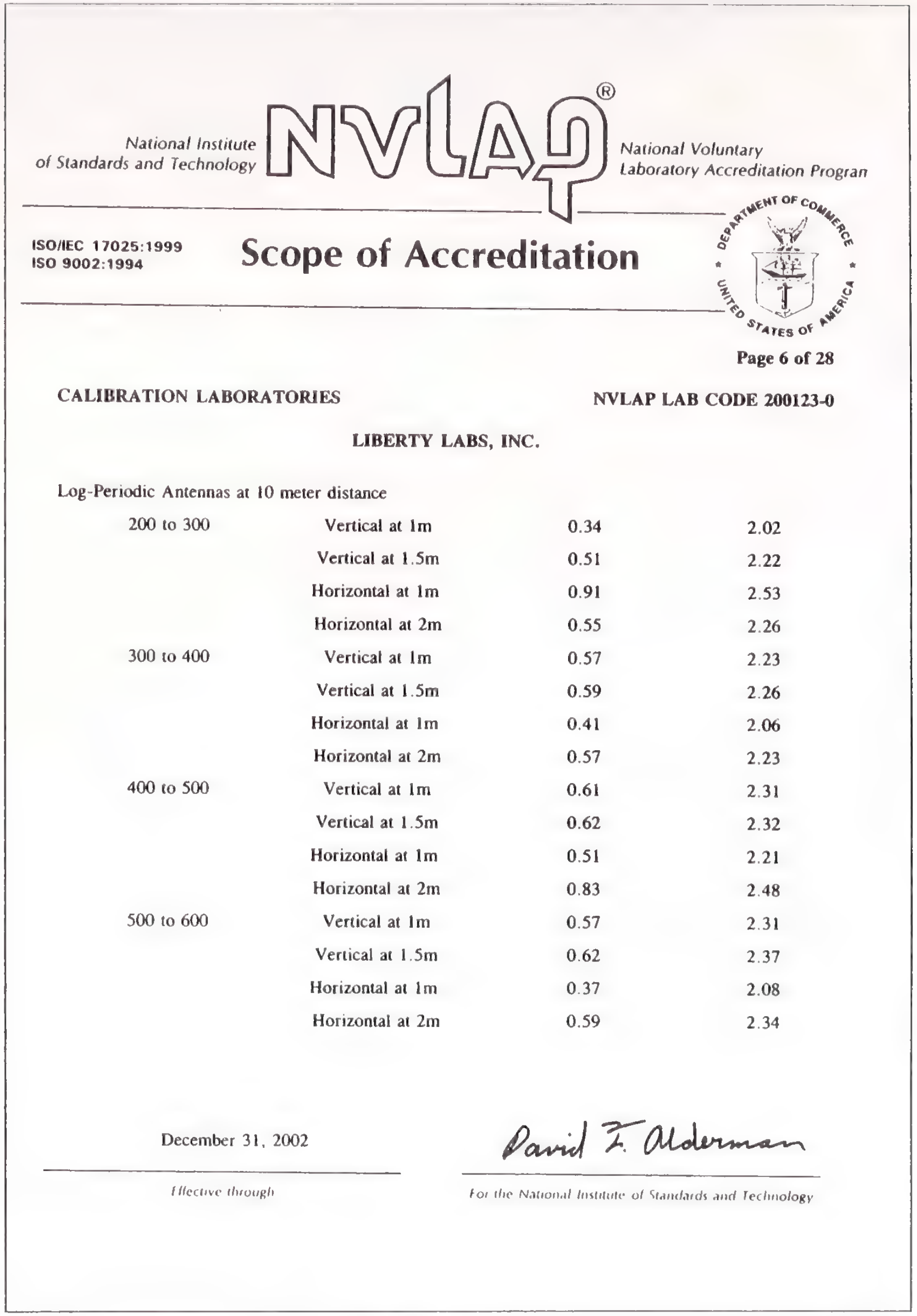

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LIBERTY LABS, INC.

Log-Periodic Antennas at 10 meter distance

200 to 300	Vertical at 1m	0.34	2.02
	Vertical at 1.5m	0.51	2.22
	Horizontal at 1m	0.91	2.53
	Horizontal at 2m	0.55	2.26
300 to 400	Vertical at 1m	0.57	2.23
	Vertical at 1.5m	0.59	2.26
	Horizontal at 1m	0.41	2.06
	Horizontal at 2m	0.57	2.23
400 to 500	Vertical at 1m	0.61	2.31
	Vertical at 1.5m	0.62	2.32
	Horizontal at 1m	0.51	2.21
	Horizontal at 2m	0.83	2.48
500 to 600	Vertical at 1m	0.57	2.31
	Vertical at 1.5m	0.62	2.37
	Horizontal at 1m	0.37	2.08
	Horizontal at 2m	0.59	2.34

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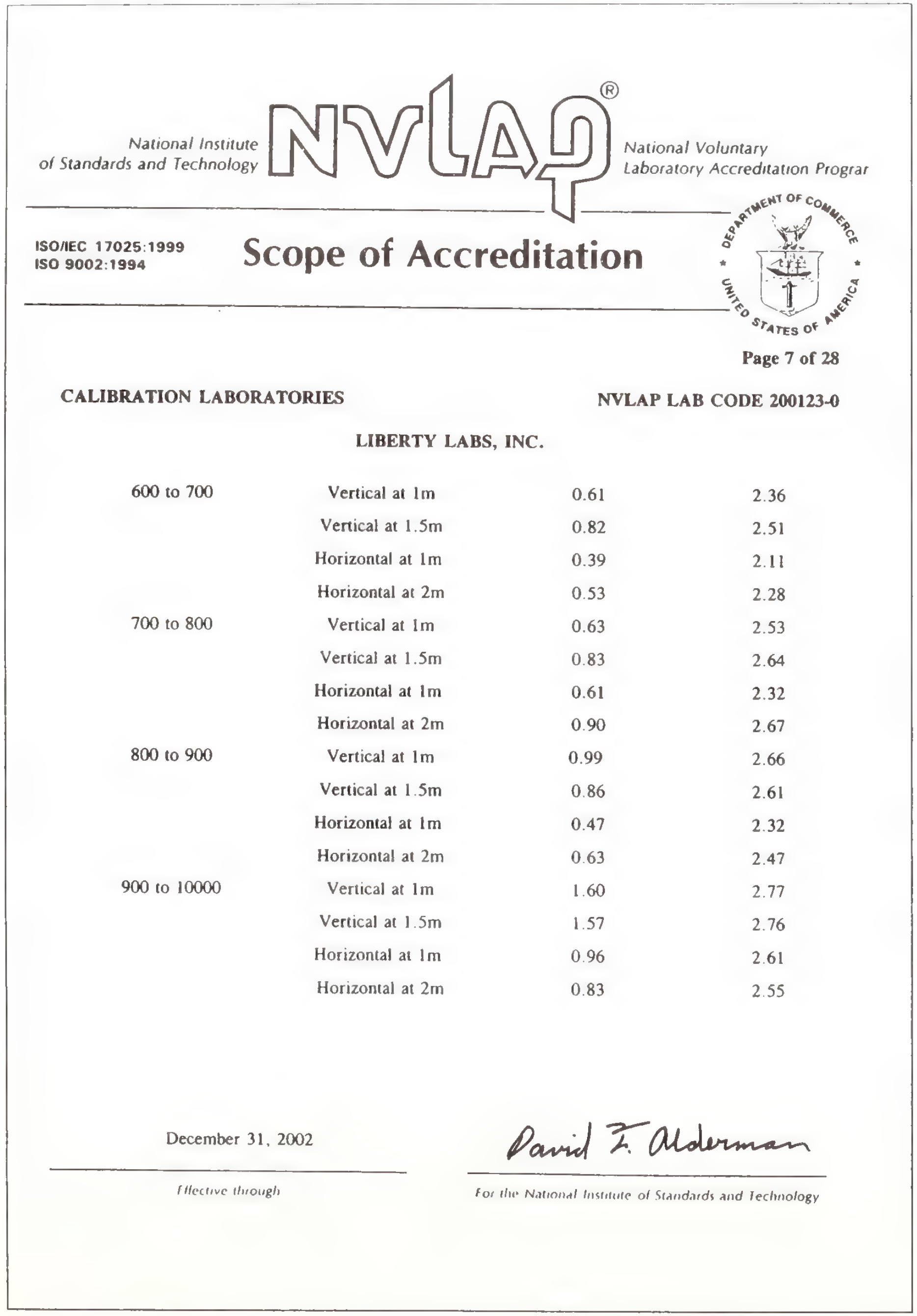

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LIBERTY LABS, INC.

600 to 700	Vertical at 1m	0.61	2.36
	Vertical at 1.5m	0.82	2.51
	Horizontal at 1m	0.39	2.11
	Horizontal at 2m	0.53	2.28
700 to 800	Vertical at 1m	0.63	2.53
	Vertical at 1.5m	0.83	2.64
	Horizontal at 1m	0.61	2.32
	Horizontal at 2m	0.90	2.67
800 to 900	Vertical at 1m	0.99	2.66
	Vertical at 1.5m	0.86	2.61
	Horizontal at 1m	0.47	2.32
	Horizontal at 2m	0.63	2.47
900 to 10000	Vertical at 1m	1.60	2.77
	Vertical at 1.5m	1.57	2.76
	Horizontal at 1m	0.96	2.61
	Horizontal at 2m	0.83	2.55

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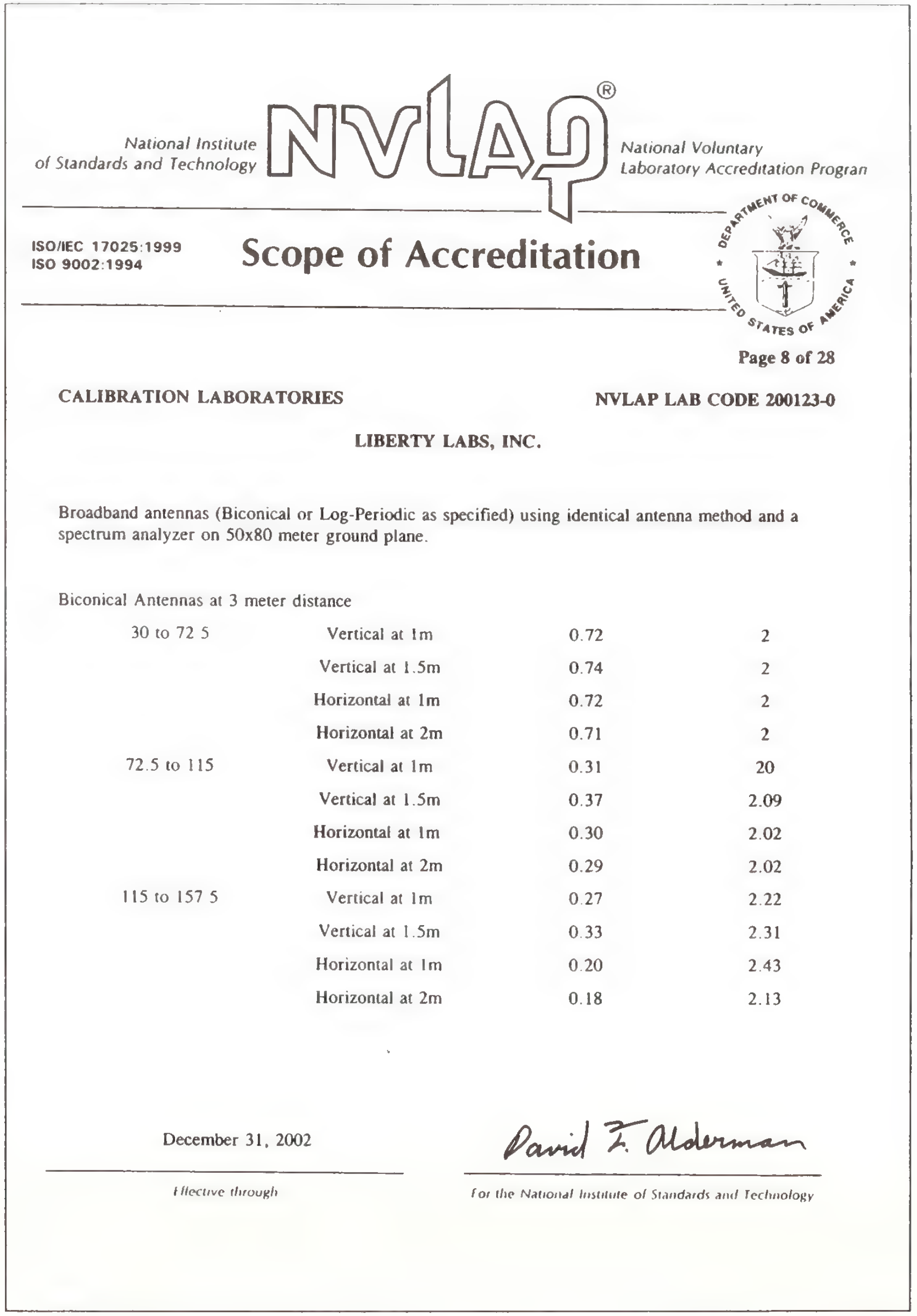

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LIBERTY LABS, INC.

Broadband antennas (Biconical or Log-Periodic as specified) using identical antenna method and a spectrum analyzer on 50x80 meter ground plane.

Biconical Antennas at 3 meter distance

30 to 72 5	Vertical at 1m	0.72	2
	Vertical at 1.5m	0.74	2
	Horizontal at 1m	0.72	2
	Horizontal at 2m	0.71	2
72.5 to 115	Vertical at 1m	0.31	20
	Vertical at 1.5m	0.37	2.09
	Horizontal at 1m	0.30	2.02
	Horizontal at 2m	0.29	2.02
115 to 157 5	Vertical at 1m	0.27	2.22
	Vertical at 1.5m	0.33	2.31
	Horizontal at 1m	0.20	2.43
	Horizontal at 2m	0.18	2.13

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LIBERTY LABS, INC.

157.5 to 200	Vertical at 1m	0.34	2.26
	Vertical at 1.5m	0.39	2.31
	Horizontal at 1m	0.24	2.20
	Horizontal at 2m	0.24	2.19
200 to 300	Horizontal/Vertical	0.33	2

Biconical Antennas at 10 meter distance

30 to 72.5	Vertical at 1m	0.49	2
	Vertical at 1.5m	0.48	2
	Horizontal at 1m	0.48	2
	Horizontal at 2m	0.48	2
72.5 to 115	Vertical at 1m	0.32	2.02
	Vertical at 1.5m	0.31	2.02
	Horizontal at 1m	0.30	2.02
	Horizontal at 2m	0.31	2.02
115 to 157.5	Vertical at 1m	0.25	2.17
	Vertical at 1.5m	0.23	2.13
	Horizontal at 1m	0.19	2.12

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LIBERTY LABS, INC.

	Horizontal at 2m	0.21	2.11
157.5 to 200	Vertical at 1m	0.26	2.17
	Vertical at 1.5m	0.25	2.17
	Horizontal at 1m	0.23	2.22
	Horizontal at 2m	0.25	2.17
200 to 300	Horizontal/Vertical	0.33	2

Log-Periodic Antennas at 3 meter distance

200 to 300	Vertical at 1m	0.36	2.24
	Vertical at 1.5m	0.37	2.21
	Horizontal at 1m	0.42	2.19
	Horizontal at 2m	0.37	2.21
300 to 400	Vertical at 1m	0.36	2.23
	Vertical at 1.5m	0.37	2.20
	Horizontal at 1m	0.48	2.22
	Horizontal at 2m	0.38	2.20
400 to 500	Vertical at 1m	0.28	2.18
	Vertical at 1.5m	0.33	2.17

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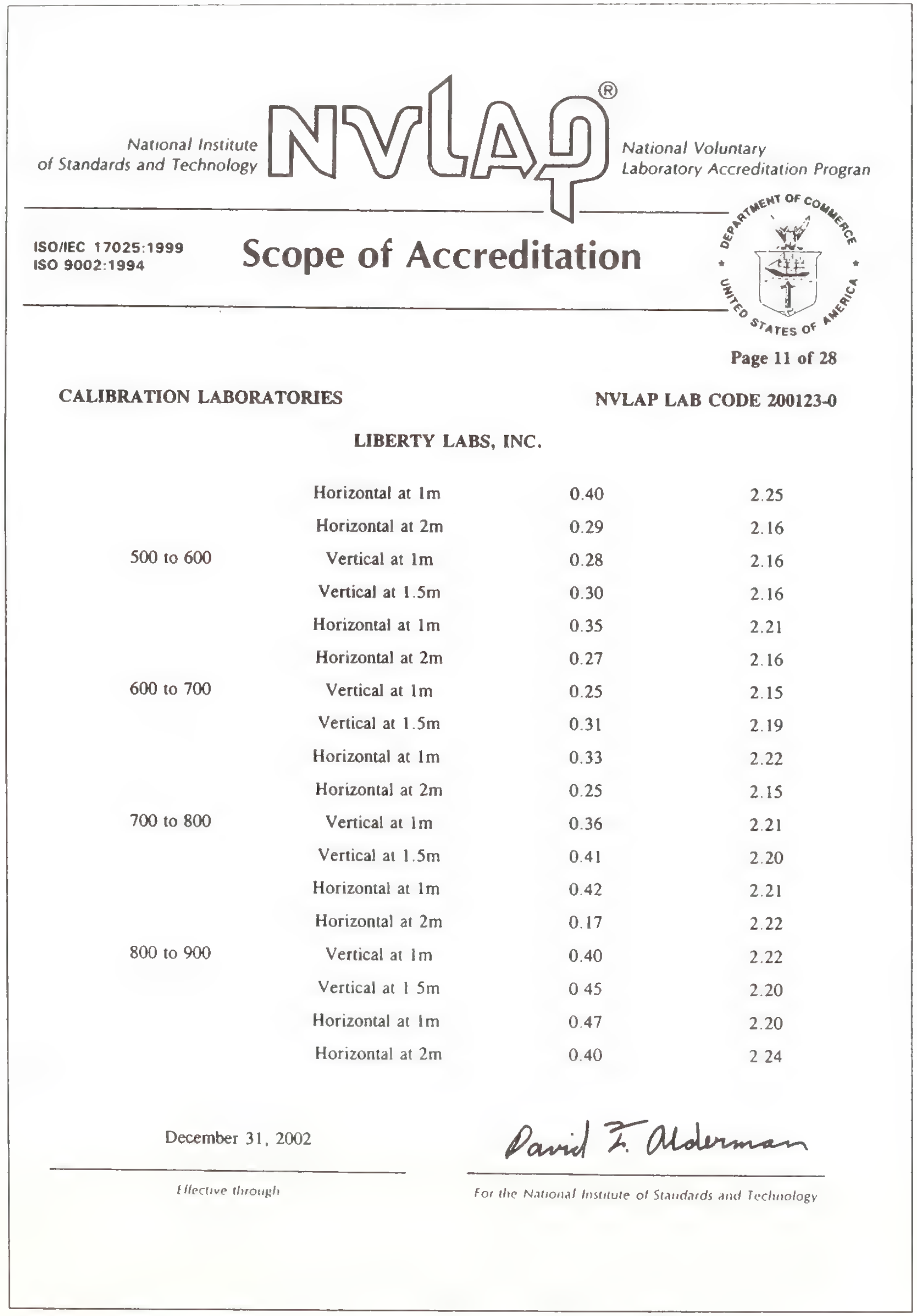

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	Horizontal at 1m	0.40	2.25
	Horizontal at 2m	0.29	2.16
500 to 600	Vertical at 1m	0.28	2.16
	Vertical at 1.5m	0.30	2.16
	Horizontal at 1m	0.35	2.21
	Horizontal at 2m	0.27	2.16
600 to 700	Vertical at 1m	0.25	2.15
	Vertical at 1.5m	0.31	2.19
	Horizontal at 1m	0.33	2.22
	Horizontal at 2m	0.25	2.15
700 to 800	Vertical at 1m	0.36	2.21
	Vertical at 1.5m	0.41	2.20
	Horizontal at 1m	0.42	2.21
	Horizontal at 2m	0.17	2.22
800 to 900	Vertical at 1m	0.40	2.22
	Vertical at 1 5m	0 45	2.20
	Horizontal at 1m	0.47	2.20
	Horizontal at 2m	0.40	2 24

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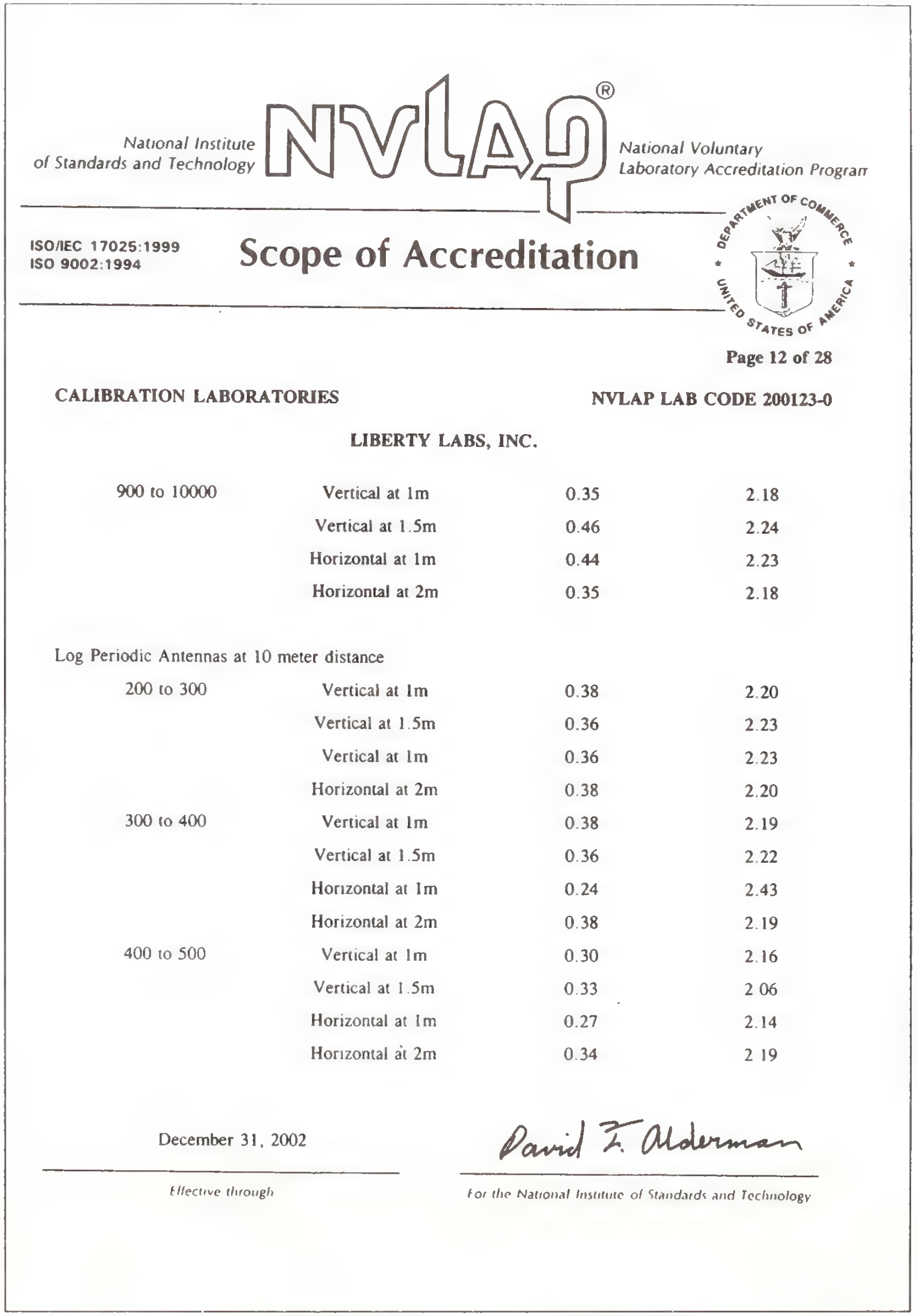

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900 to 10000	Vertical at 1m	0.35	2.18
	Vertical at 1.5m	0.46	2.24
	Horizontal at 1m	0.44	2.23
	Horizontal at 2m	0.35	2.18
Log Periodic Antennas at 10 meter distance			
200 to 300	Vertical at 1m	0.38	2.20
	Vertical at 1.5m	0.36	2.23
	Vertical at 1m	0.36	2.23
	Horizontal at 2m	0.38	2.20
300 to 400	Vertical at 1m	0.38	2.19
	Vertical at 1.5m	0.36	2.22
	Horizontal at 1m	0.24	2.43
	Horizontal at 2m	0.38	2.19
400 to 500	Vertical at 1m	0.30	2.16
	Vertical at 1.5m	0.33	2 06
	Horizontal at 1m	0.27	2.14
	Horizontal at 2m	0.34	2 19

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LIBERTY LABS, INC.

500 to 600	Vertical at 1m	0.22	2.16
	Vertical at 1.5m	0.32	2.06
	Horizontal at 1m	0.26	2.19
	Horizontal at 2m	0.29	2.16
600 to 700	Vertical at 1m	0.28	2.16
	Vertical at 1.5m	0.30	2.05
	Horizontal at 1m	0.24	2.17
	Horizontal at 2m	0.26	2.15
700 to 800	Vertical at 1m	0.37	2.21
	Vertical at 1.5m	0.38	2.12
	Horizontal at 1m	0.34	2.26
	Horizontal at 2m	0.40	2.20
800 to 900	Vertical at 1m	0.45	2.20
	Vertical at 1.5m	0.42	2.14
	Horizontal at 1m	0.39	2.26
	Horizontal at 2m	0.41	2.21

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900 to 10000	Vertical at 1m	0.55	2.33
	Vertical at 1.5m	0.37	2.11
	Horizontal at 1m	0.32	2.23
	Horizontal at 2m	0.32	2.21

Broadband antennas (Biconical or Log-Periodic as specified) using identical antenna method and a network analyzer on 50x80 meter ground plane.

Biconical Antennas at 3 meter distance

30 to 72.5	Vertical at 1m	0.15	2.13
	Vertical at 1.5m	0.28	2.23
	Horizontal at 1m	0.22	2.19
	Horizontal at 2m	0.09	2
72.5 to 115	Vertical at 1m	0.19	2.17
	Vertical at 1.5m	0.32	2.24
	Horizontal at 1m	0.14	2.12
	Horizontal at 2m	0.09	2.02

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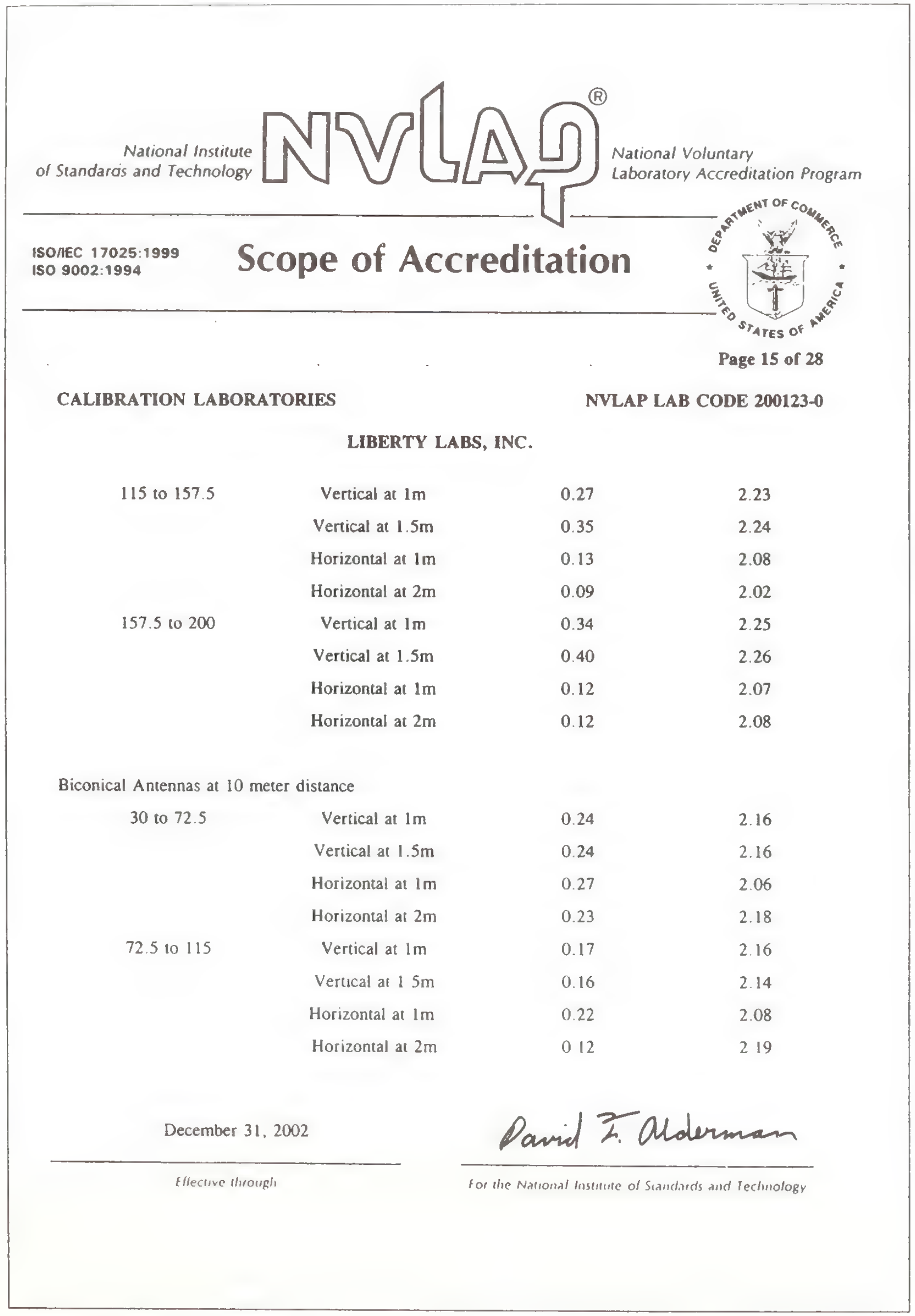

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115 to 157.5	Vertical at 1m	0.27	2.23
	Vertical at 1.5m	0.35	2.24
	Horizontal at 1m	0.13	2.08
	Horizontal at 2m	0.09	2.02
157.5 to 200	Vertical at 1m	0.34	2.25
	Vertical at 1.5m	0.40	2.26
	Horizontal at 1m	0.12	2.07
	Horizontal at 2m	0.12	2.08

Biconical Antennas at 10 meter distance

30 to 72.5	Vertical at 1m	0.24	2.16
	Vertical at 1.5m	0.24	2.16
	Horizontal at 1m	0.27	2.06
	Horizontal at 2m	0.23	2.18
72.5 to 115	Vertical at 1m	0.17	2.16
	Vertical at 1 5m	0.16	2.14
	Horizontal at 1m	0.22	2.08
	Horizontal at 2m	0 12	2 19

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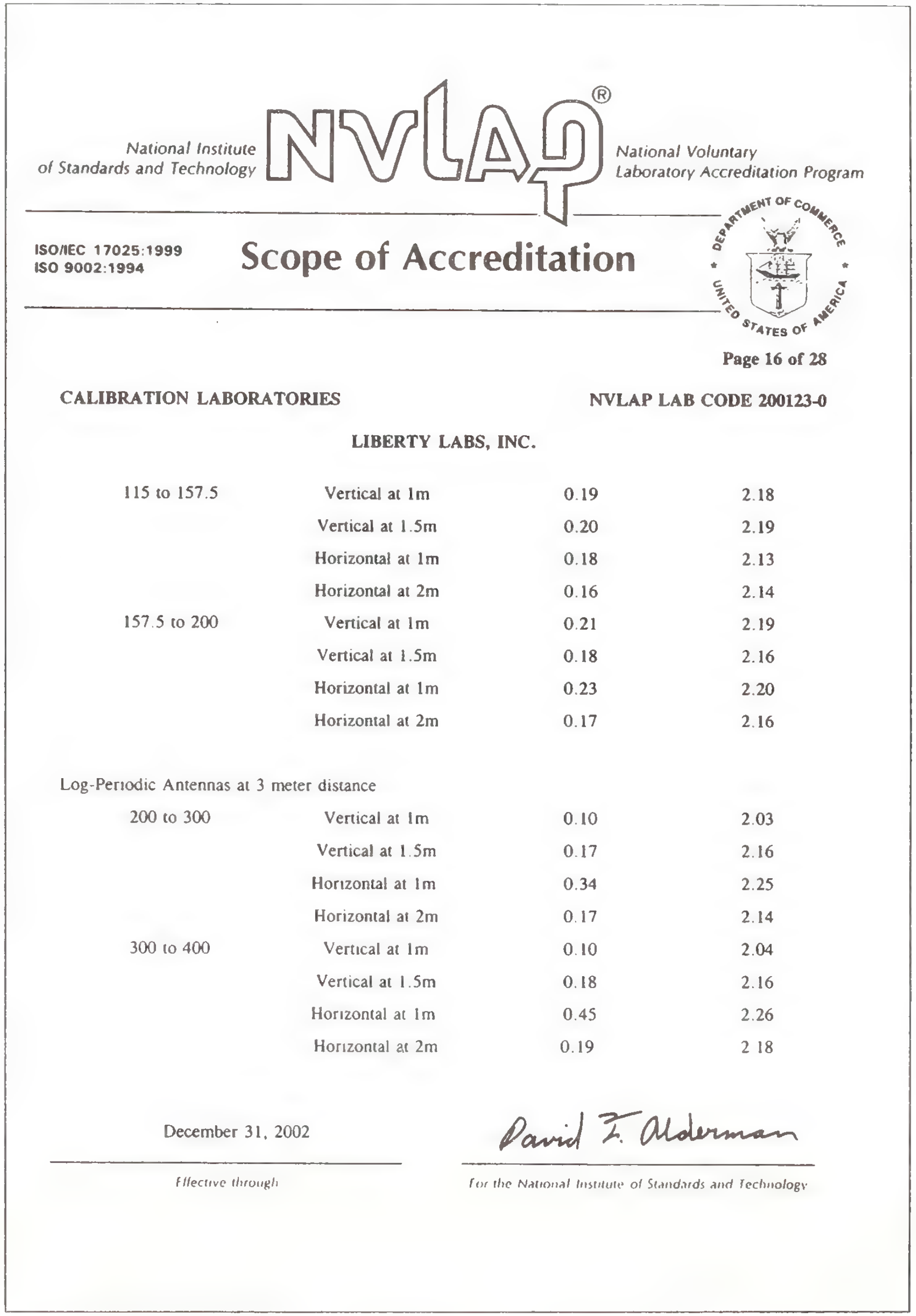

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115 to 157.5	Vertical at 1m	0.19	2.18
	Vertical at 1.5m	0.20	2.19
	Horizontal at 1m	0.18	2.13
	Horizontal at 2m	0.16	2.14
157.5 to 200	Vertical at 1m	0.21	2.19
	Vertical at 1.5m	0.18	2.16
	Horizontal at 1m	0.23	2.20
	Horizontal at 2m	0.17	2.16

Log-Periodic Antennas at 3 meter distance

200 to 300	Vertical at 1m	0.10	2.03
	Vertical at 1.5m	0.17	2.16
	Horizontal at 1m	0.34	2.25
	Horizontal at 2m	0.17	2.14
300 to 400	Vertical at 1m	0.10	2.04
	Vertical at 1.5m	0.18	2.16
	Horizontal at 1m	0.45	2.26
	Horizontal at 2m	0.19	2 18

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400 to 500	Vertical at 1m	0.13	2.10
	Vertical at 1.5m	0.28	2.23
	Horizontal at 1m	0.41	2.26
	Horizontal at 2m	0.18	2.17
500 to 600	Vertical at 1m	0.19	2.17
	Vertical at 1.5m	0.24	2.21
	Horizontal at 1m	0.33	2.25
	Horizontal at 2m	0.17	2.16
600 to 700	Vertical at 1m	0.15	2.13
	Vertical at 1.5m	0.29	2.23
	Horizontal at 1m	0.33	2.24
	Horizontal at 2m	0.16	2.14
700 to 800	Vertical at 1m	0.20	2.19
	Vertical at 1.5m	0.34	2.25
	Horizontal at 1m	0.37	2.25
	Horizontal at 2m	0.17	2.16

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800 to 900	Vertical at 1m	0.21	2.19
	Vertical at 1.5m	0.35	2.25
	Horizontal at 1m	0.39	2.25
	Horizontal at 2m	0.17	2.15
900 to 10000	Vertical at 1m	0.24	2.22
	Vertical at 1.5m	0.45	2.27
	Horizontal at 1m	0.43	2.26
	Horizontal at 2m	0.25	2.21

Log-Periodic Antennas at 10 meter distance

200 to 300	Vertical at 1m	0.15	2.11
	Vertical at1.5m	0.22	2.15
	Horizontal at 1m	0.34	2.25
	Horizontal at 2m	0.19	2.16
300 to 400	Vertical at 1m	0.15	2.11
	Vertical at 1.5m	0.24	2.16
	Horizontal at 1m	0.25	2.55
	Horizontal at 2m	0.20	2.18

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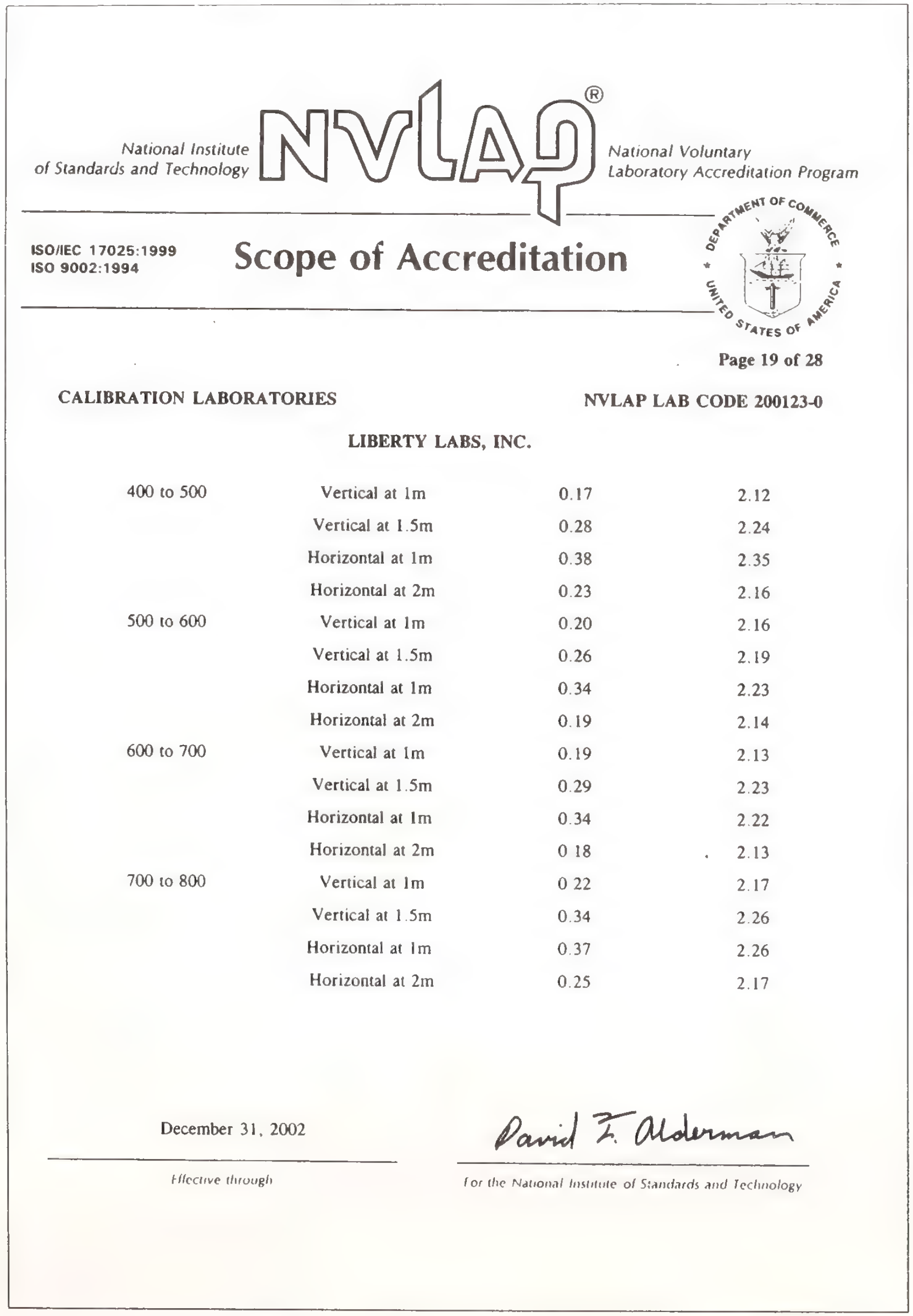

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LIBERTY LABS, INC.

400 to 500	Vertical at 1m	0.17	2.12
	Vertical at 1.5m	0.28	2.24
	Horizontal at 1m	0.38	2.35
	Horizontal at 2m	0.23	2.16
500 to 600	Vertical at 1m	0.20	2.16
	Vertical at 1.5m	0.26	2.19
	Horizontal at 1m	0.34	2.23
	Horizontal at 2m	0.19	2.14
600 to 700	Vertical at 1m	0.19	2.13
	Vertical at 1.5m	0.29	2.23
	Horizontal at 1m	0.34	2.22
	Horizontal at 2m	0.18	2.13
700 to 800	Vertical at 1m	0.22	2.17
	Vertical at 1.5m	0.34	2.26
	Horizontal at 1m	0.37	2.26
	Horizontal at 2m	0.25	2.17

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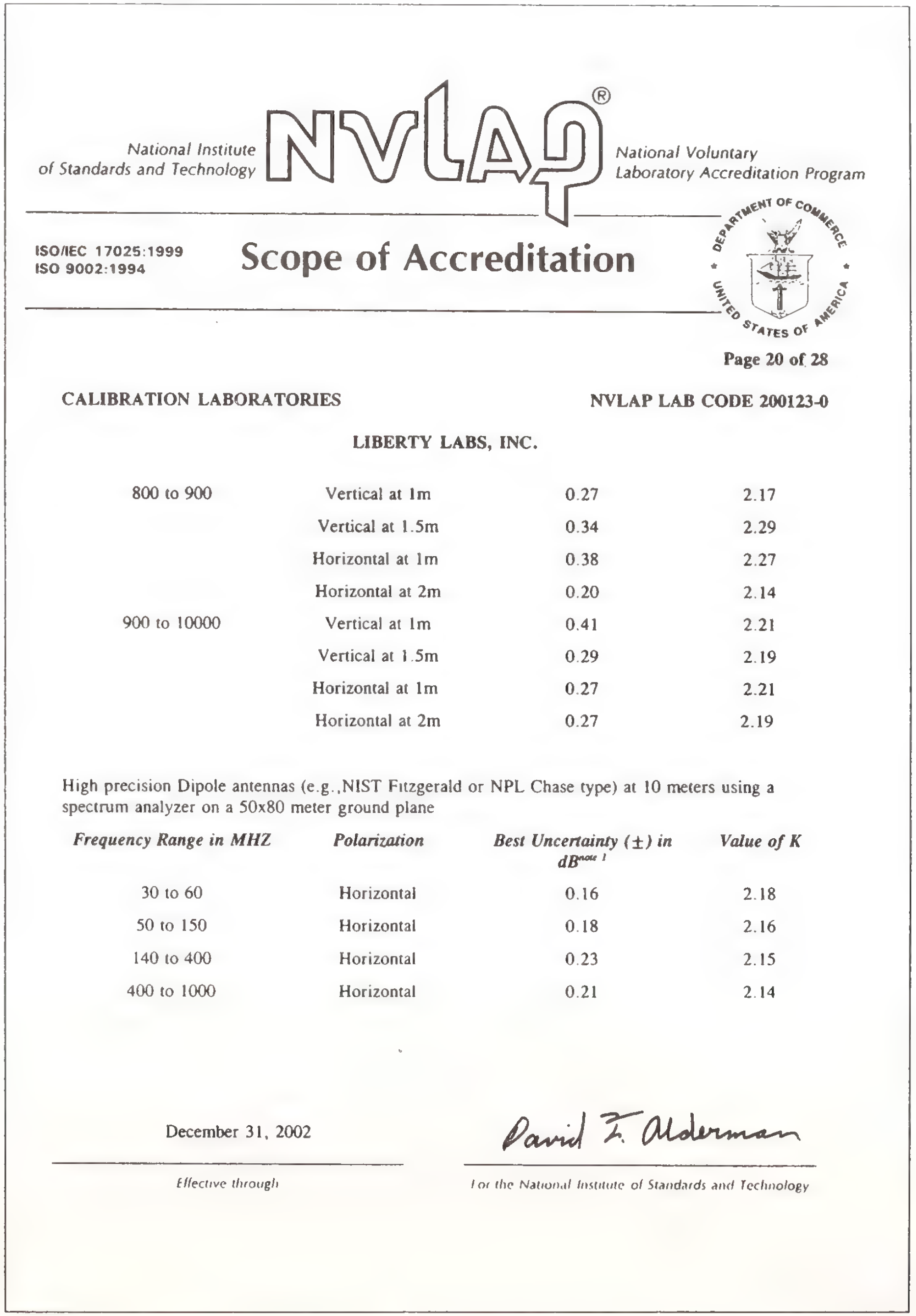

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800 to 900	Vertical at 1m	0.27	2.17
	Vertical at 1.5m	0.34	2.29
	Horizontal at 1m	0.38	2.27
	Horizontal at 2m	0.20	2.14
900 to 10000	Vertical at 1m	0.41	2.21
	Vertical at 1.5m	0.29	2.19
	Horizontal at 1m	0.27	2.21
	Horizontal at 2m	0.27	2.19

High precision Dipole antennas (e.g.,NIST Fitzgerald or NPL Chase type) at 10 meters using a spectrum analyzer on a 50x80 meter ground plane

Frequency Range in MHZ	*Polarization*	*Best Uncertainty (±) in dB$^{note\ 1}$*	*Value of K*
30 to 60	Horizontal	0.16	2.18
50 to 150	Horizontal	0.18	2.16
140 to 400	Horizontal	0.23	2.15
400 to 1000	Horizontal	0.21	2.14

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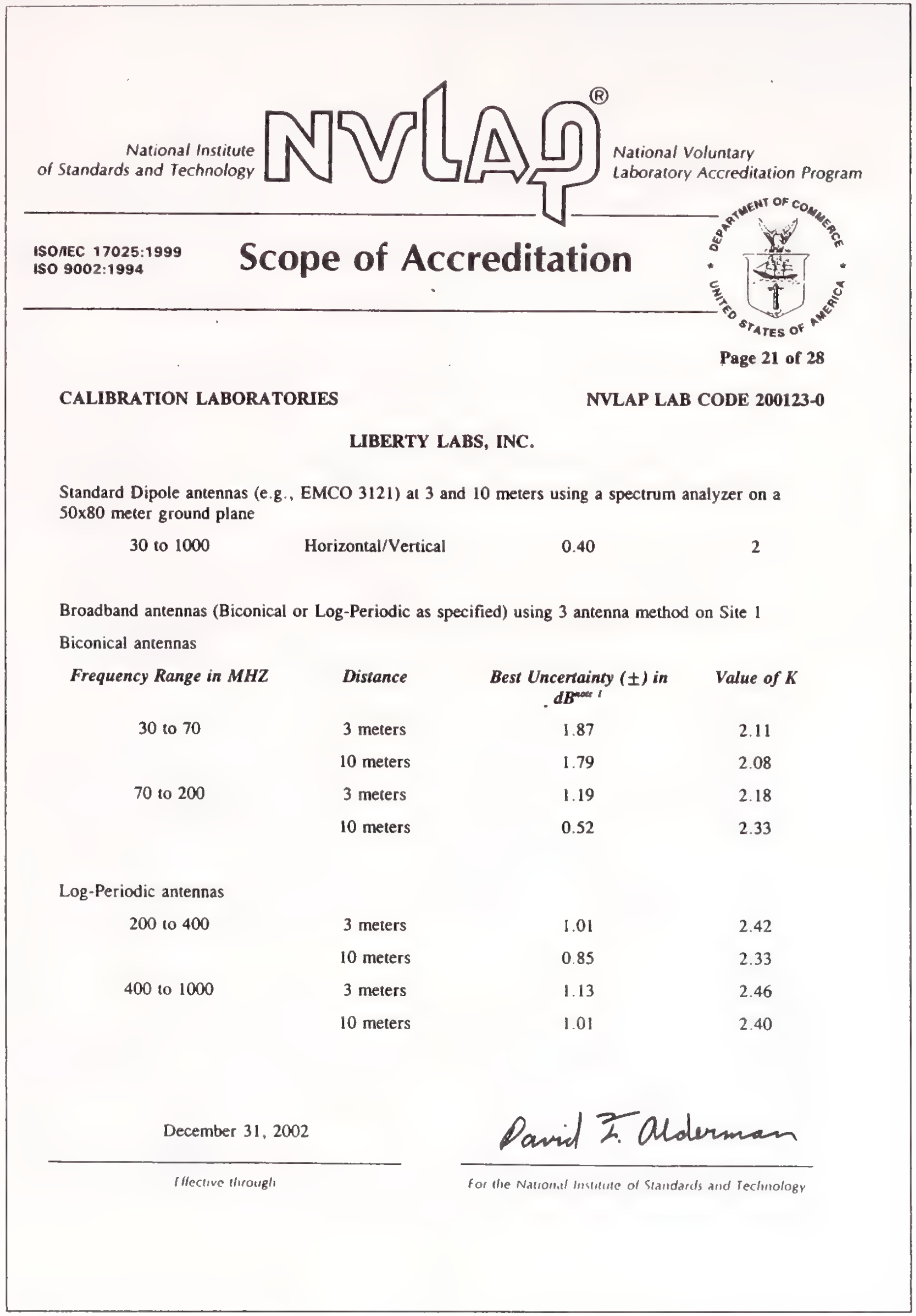

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CALIBRATION LABORATORIES **NVLAP LAB CODE 200123-0**

LIBERTY LABS, INC.

Standard Dipole antennas (e.g., EMCO 3121) at 3 and 10 meters using a spectrum analyzer on a 50x80 meter ground plane

30 to 1000	Horizontal/Vertical	0.40	2

Broadband antennas (Biconical or Log-Periodic as specified) using 3 antenna method on Site 1

Biconical antennas

Frequency Range in MHZ	*Distance*	*Best Uncertainty (±) in dB*[note 1]	*Value of K*
30 to 70	3 meters	1.87	2.11
	10 meters	1.79	2.08
70 to 200	3 meters	1.19	2.18
	10 meters	0.52	2.33

Log-Periodic antennas

200 to 400	3 meters	1.01	2.42
	10 meters	0.85	2.33
400 to 1000	3 meters	1.13	2.46
	10 meters	1.01	2.40

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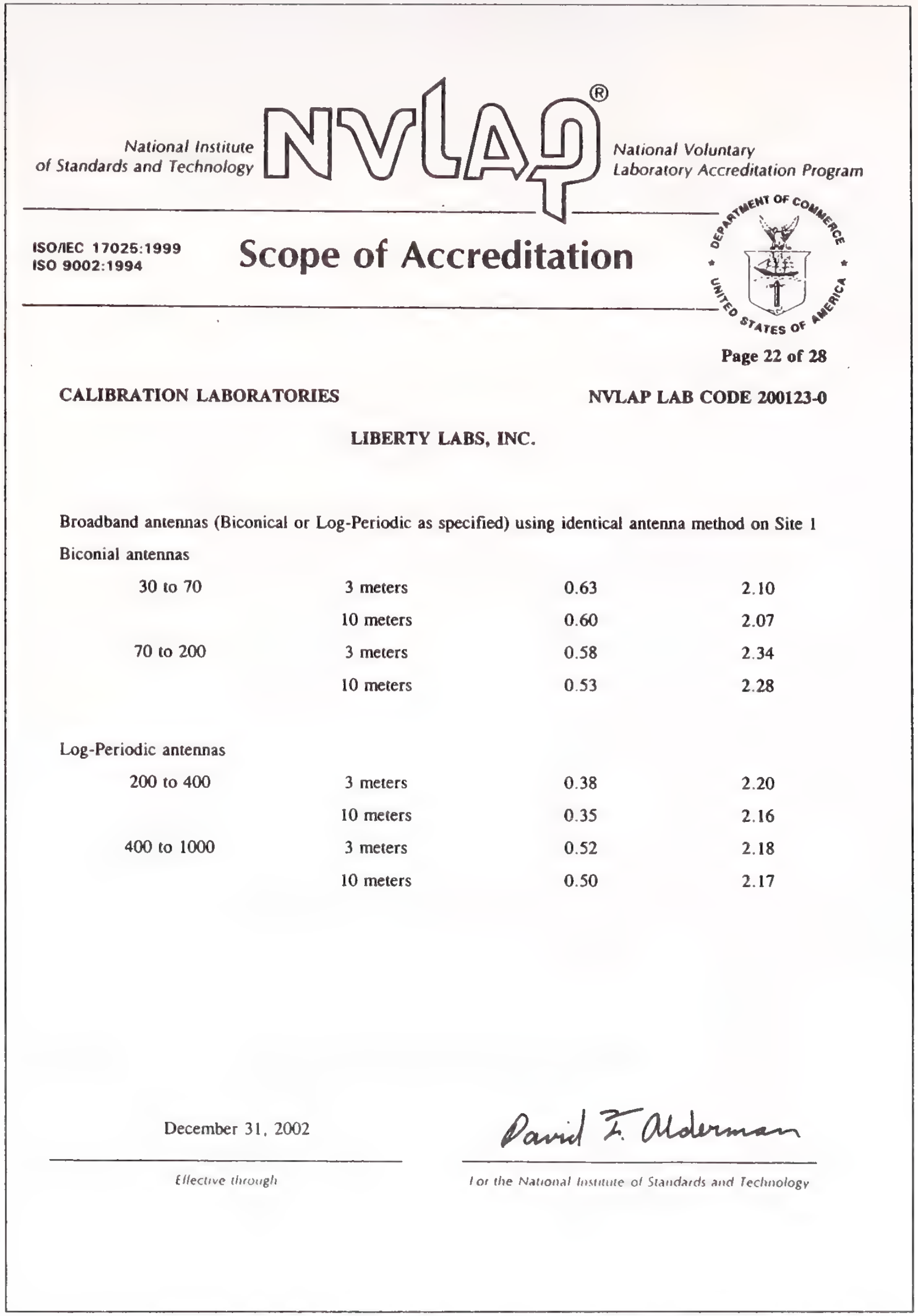

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LIBERTY LABS, INC.

Broadband antennas (Biconical or Log-Periodic as specified) using identical antenna method on Site 1

Biconial antennas

30 to 70	3 meters	0.63	2.10
	10 meters	0.60	2.07
70 to 200	3 meters	0.58	2.34
	10 meters	0.53	2.28

Log-Periodic antennas

200 to 400	3 meters	0.38	2.20
	10 meters	0.35	2.16
400 to 1000	3 meters	0.52	2.18
	10 meters	0.50	2.17

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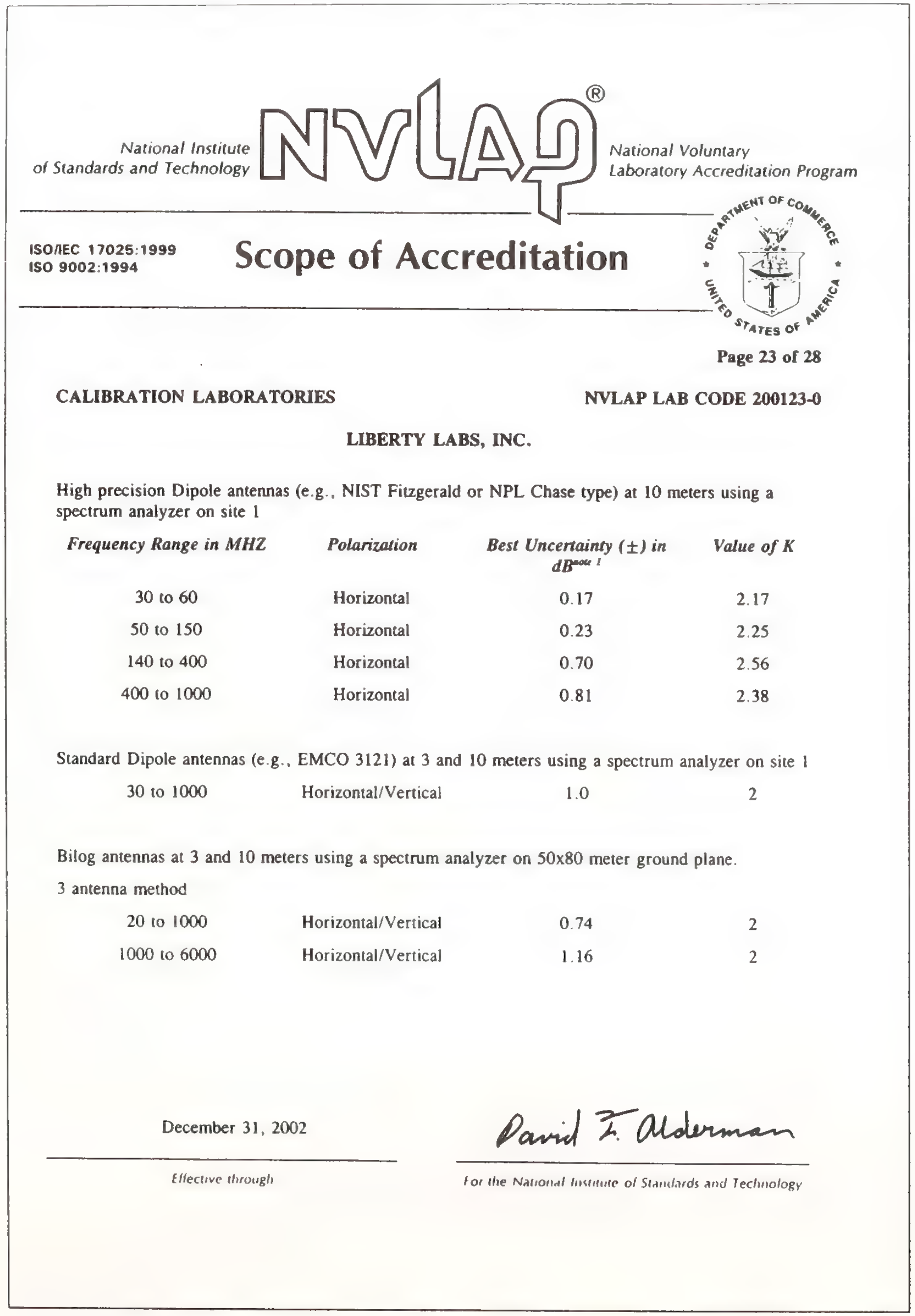

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LIBERTY LABS, INC.

High precision Dipole antennas (e.g., NIST Fitzgerald or NPL Chase type) at 10 meters using a spectrum analyzer on site 1

Frequency Range in MHZ	*Polarization*	*Best Uncertainty (±) in $dB^{note\ 1}$*	*Value of K*
30 to 60	Horizontal	0.17	2.17
50 to 150	Horizontal	0.23	2.25
140 to 400	Horizontal	0.70	2.56
400 to 1000	Horizontal	0.81	2.38

Standard Dipole antennas (e.g., EMCO 3121) at 3 and 10 meters using a spectrum analyzer on site 1

30 to 1000	Horizontal/Vertical	1.0	2

Bilog antennas at 3 and 10 meters using a spectrum analyzer on 50x80 meter ground plane.

3 antenna method

20 to 1000	Horizontal/Vertical	0.74	2
1000 to 6000	Horizontal/Vertical	1.16	2

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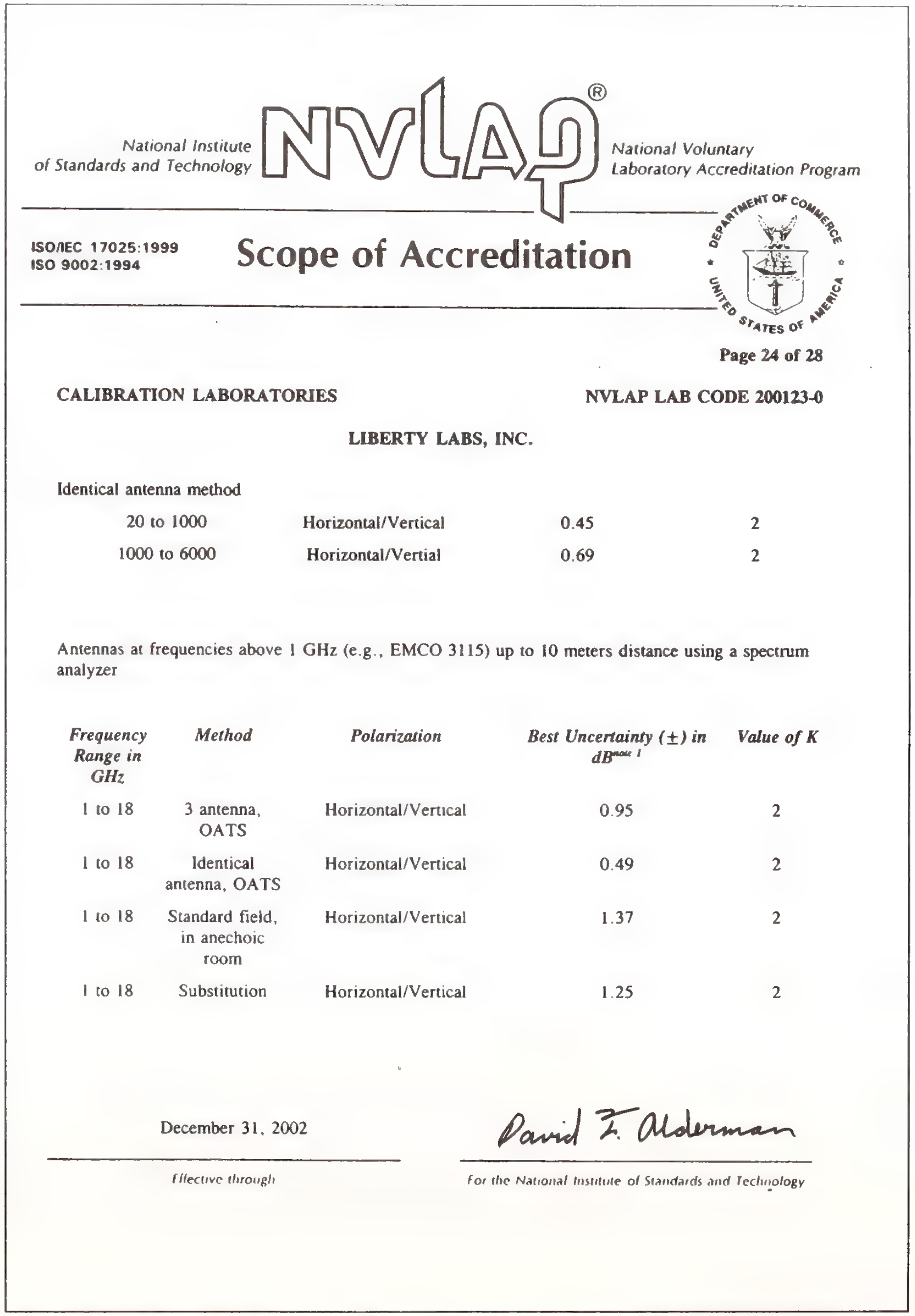

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Identical antenna method

20 to 1000	Horizontal/Vertical	0.45	2
1000 to 6000	Horizontal/Vertial	0.69	2

Antennas at frequencies above 1 GHz (e.g., EMCO 3115) up to 10 meters distance using a spectrum analyzer

Frequency Range in GHz	*Method*	*Polarization*	*Best Uncertainty (±) in $dB^{note\ 1}$*	*Value of K*
1 to 18	3 antenna, OATS	Horizontal/Vertical	0.95	2
1 to 18	Identical antenna, OATS	Horizontal/Vertical	0.49	2
1 to 18	Standard field, in anechoic room	Horizontal/Vertical	1.37	2
1 to 18	Substitution	Horizontal/Vertical	1.25	2

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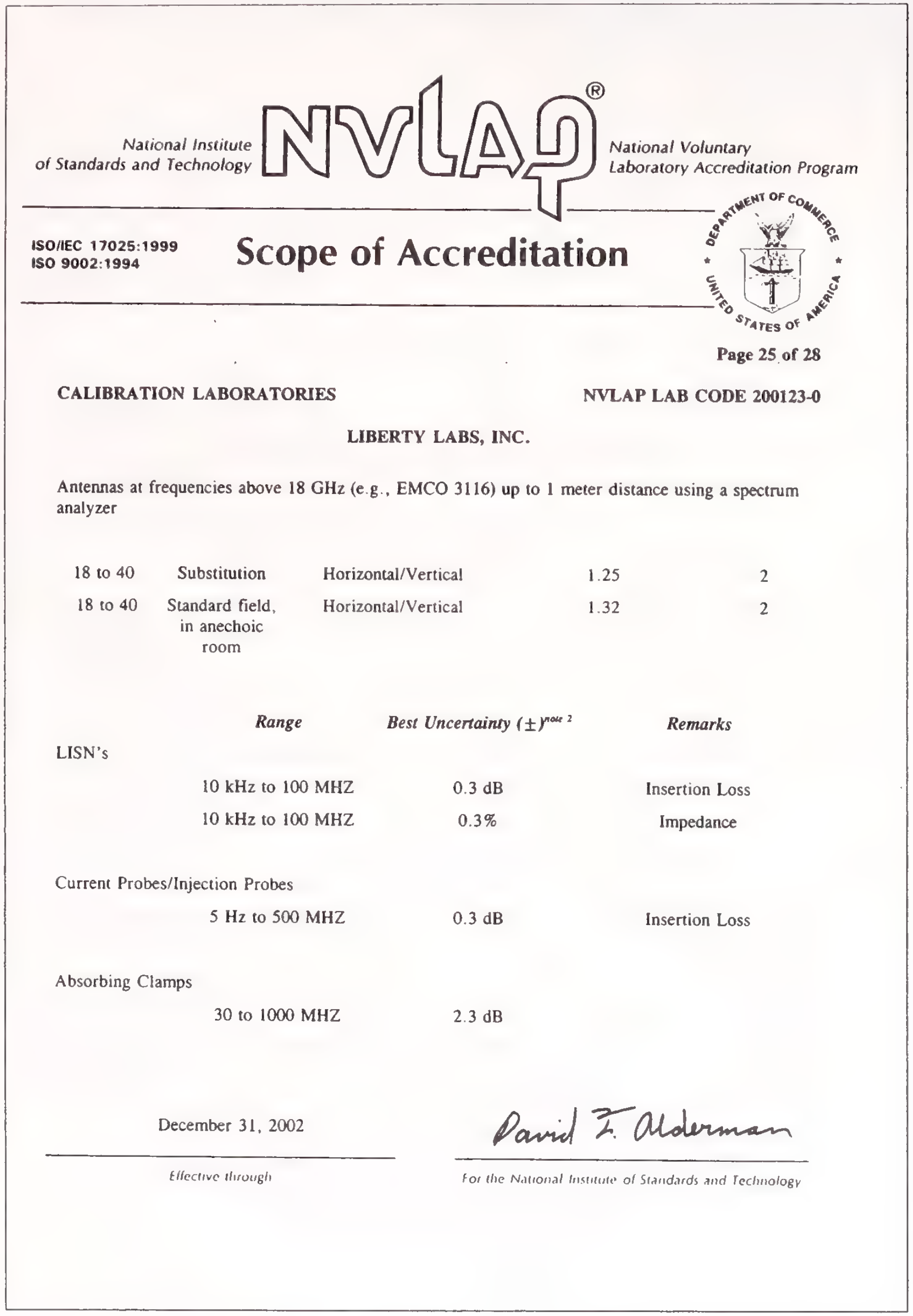

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Antennas at frequencies above 18 GHz (e.g., EMCO 3116) up to 1 meter distance using a spectrum analyzer

18 to 40	Substitution	Horizontal/Vertical	1.25	2
18 to 40	Standard field, in anechoic room	Horizontal/Vertical	1.32	2

	Range	*Best Uncertainty* (±)[note 2]	*Remarks*
LISN's			
	10 kHz to 100 MHZ	0.3 dB	Insertion Loss
	10 kHz to 100 MHZ	0.3%	Impedance
Current Probes/Injection Probes			
	5 Hz to 500 MHZ	0.3 dB	Insertion Loss
Absorbing Clamps			
	30 to 1000 MHZ	2.3 dB	

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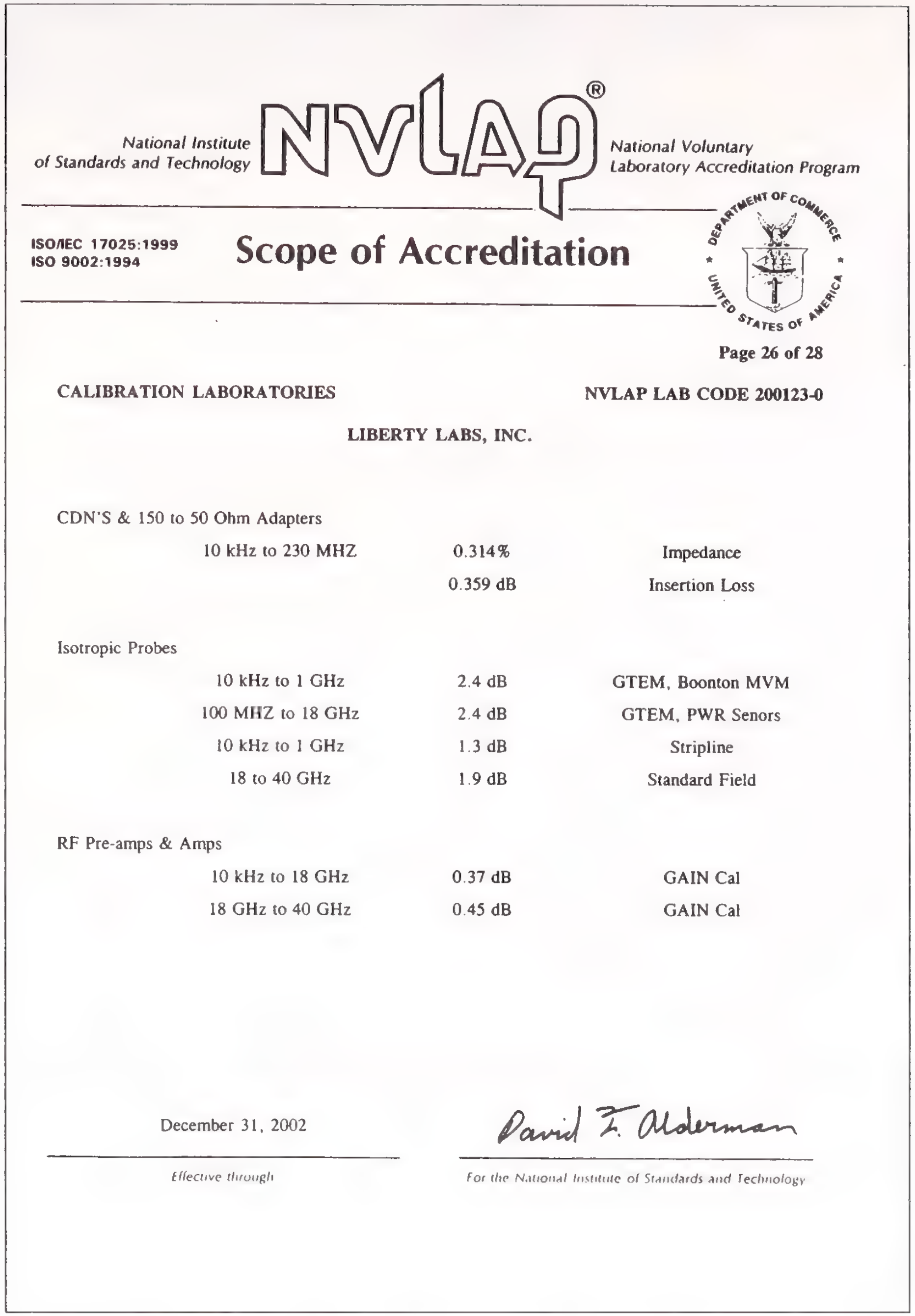

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CDN'S & 150 to 50 Ohm Adapters			
	10 kHz to 230 MHZ	0.314%	Impedance
		0.359 dB	Insertion Loss
Isotropic Probes			
	10 kHz to 1 GHz	2.4 dB	GTEM, Boonton MVM
	100 MHZ to 18 GHz	2.4 dB	GTEM, PWR Senors
	10 kHz to 1 GHz	1.3 dB	Stripline
	18 to 40 GHz	1.9 dB	Standard Field
RF Pre-amps & Amps			
	10 kHz to 18 GHz	0.37 dB	GAIN Cal
	18 GHz to 40 GHz	0.45 dB	GAIN Cal

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Loop Antennas			
	1 kHz to 30 MHZ	0.75 dB	Vacuo Junction
	20 Hz to 100 kHz	0.74 dB	Serioes Resistor
	20 Hz to 30 MHZ	0.90 dB	By susbstition
Rod Antennas			
	100 Hz to 30 MHZ	0.5	Using ECSM (Insertion Loss with Mfr's Fixture)
	100 Hz to 10 kHz	1.0	Using NIST 1347
	10 kHz to 30 MHZ	0.9	Using NIST 1347
RF Insertion Loss			
	10 kHz to 18 GHz	0.24 dB	for us with Network Analyzers
	10 kHz to 18 GHz	3.181%	for use with RF Power Sensors
	10 kHz to 18 GHz	0.37 dB	for use with Spectrum Analyzers
	18 kHz to 40 GHz	0.45 dB	for use with Spectrum Analyzers

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ESD Simulators (0 to 25 kV)/Surge Generators (0 to 10 kV)

ESD 2 kV	0.622%	Contact
ESD 4 kV	0.657%	Contact
ESD 6 kV	0.708%	Contact
ESD 8 kV	0.681%	Contact
ESD	2.053%	Air Discharge
Surge/EFT		
0 to 10 kV	0.8%	
.2ns to 5 seconds	0.41%	

---

1. Represents an expanded uncertainty corresponding to a 95.45% level of confidence using a coverage factor, k. Values of k other than 2 were approximated by a t-distribution with the effective degrees of freedom v_{eff} obtained from the Welch-Satterthwaite formula.
2. Represents an expanded uncertainty using a coverage factor, k=2.

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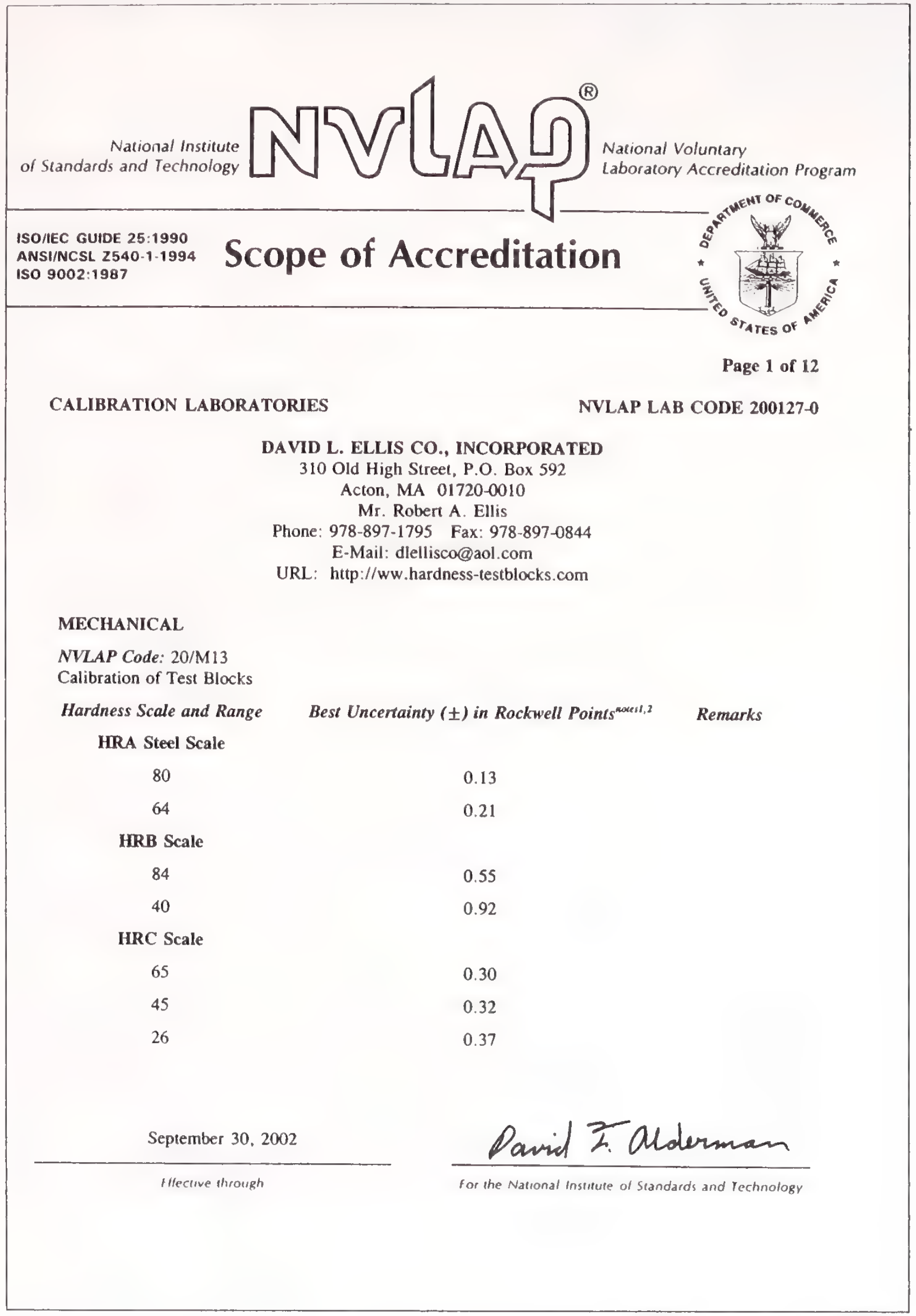

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DAVID L. ELLIS CO., INCORPORATED
310 Old High Street, P.O. Box 592
Acton, MA 01720-0010
Mr. Robert A. Ellis
Phone: 978-897-1795 Fax: 978-897-0844
E-Mail: dlellisco@aol.com
URL: http://ww.hardness-testblocks.com

MECHANICAL

NVLAP Code: 20/M13
Calibration of Test Blocks

Hardness Scale and Range	*Best Uncertainty (±) in Rockwell Points*$^{\text{notes1,2}}$	*Remarks*
HRA Steel Scale		
80	0.13	
64	0.21	
HRB Scale		
84	0.55	
40	0.92	
HRC Scale		
65	0.30	
45	0.32	
26	0.37	

September 30, 2002
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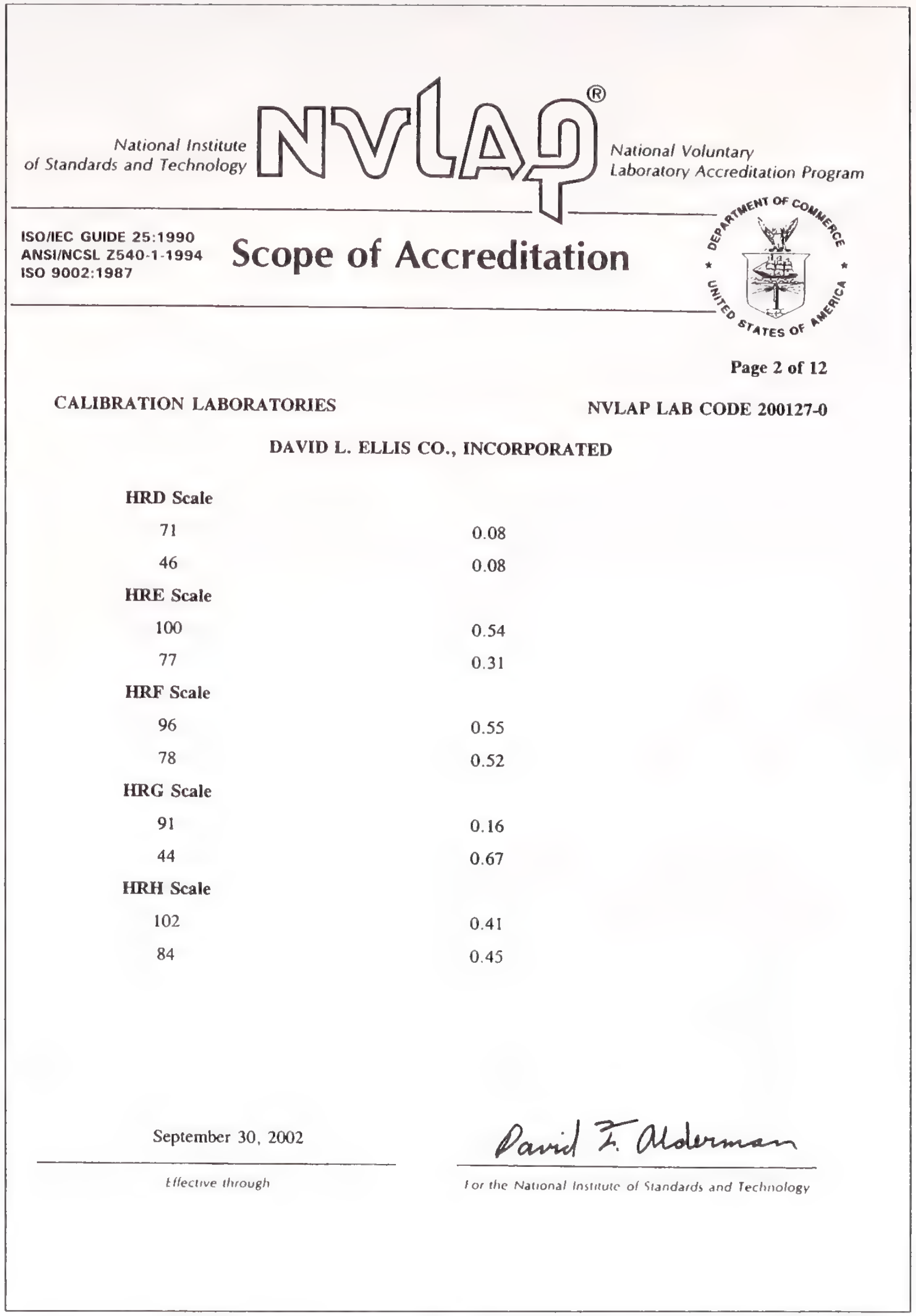

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CALIBRATION LABORATORIES

NVLAP LAB CODE 200127-0

DAVID L. ELLIS CO., INCORPORATED

HRD Scale	
71	0.08
46	0.08
HRE Scale	
100	0.54
77	0.31
HRF Scale	
96	0.55
78	0.52
HRG Scale	
91	0.16
44	0.67
HRH Scale	
102	0.41
84	0.45

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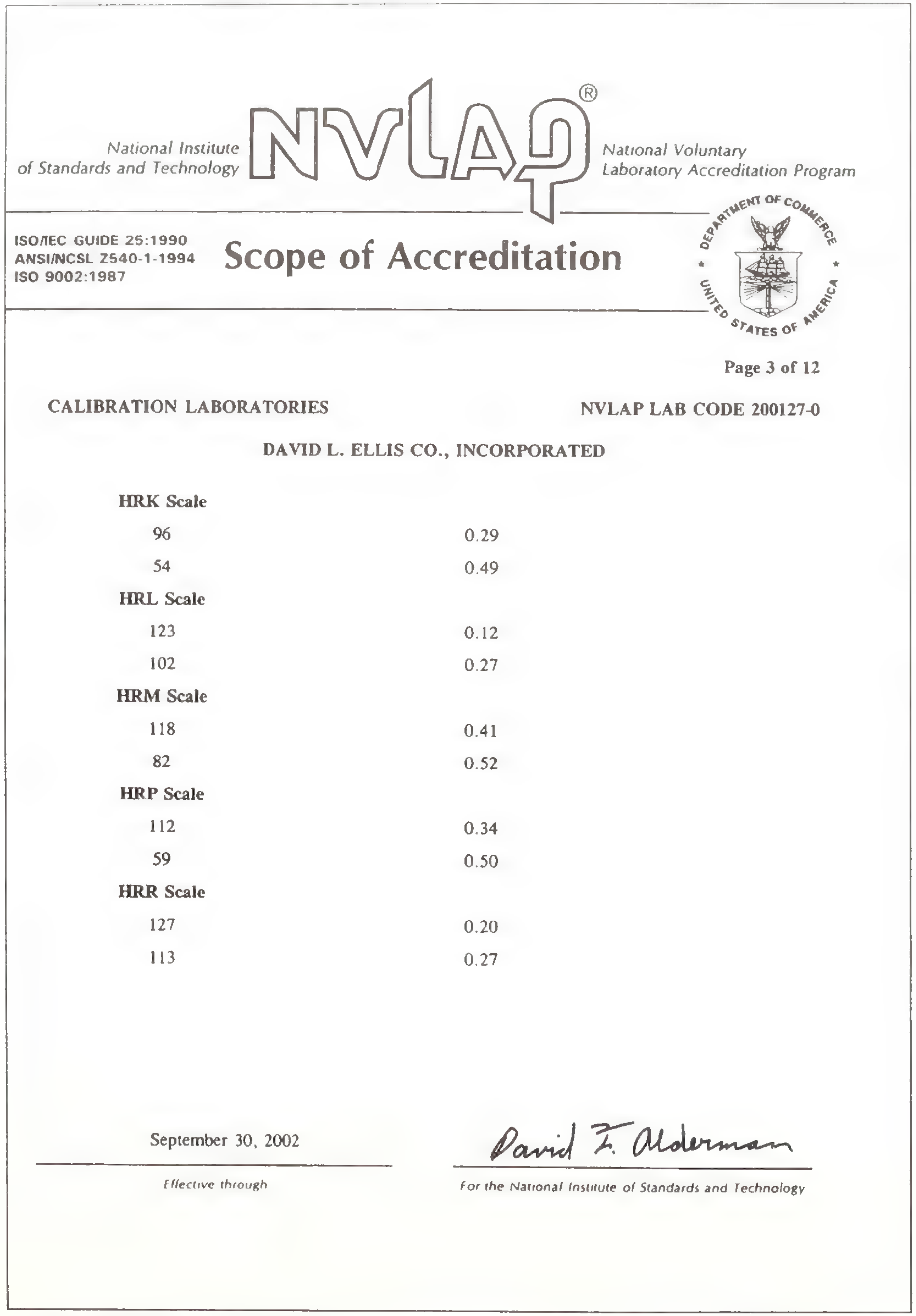

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DAVID L. ELLIS CO., INCORPORATED

HRK Scale	
96	0.29
54	0.49
HRL Scale	
123	0.12
102	0.27
HRM Scale	
118	0.41
82	0.52
HRP Scale	
112	0.34
59	0.50
HRR Scale	
127	0.20
113	0.27

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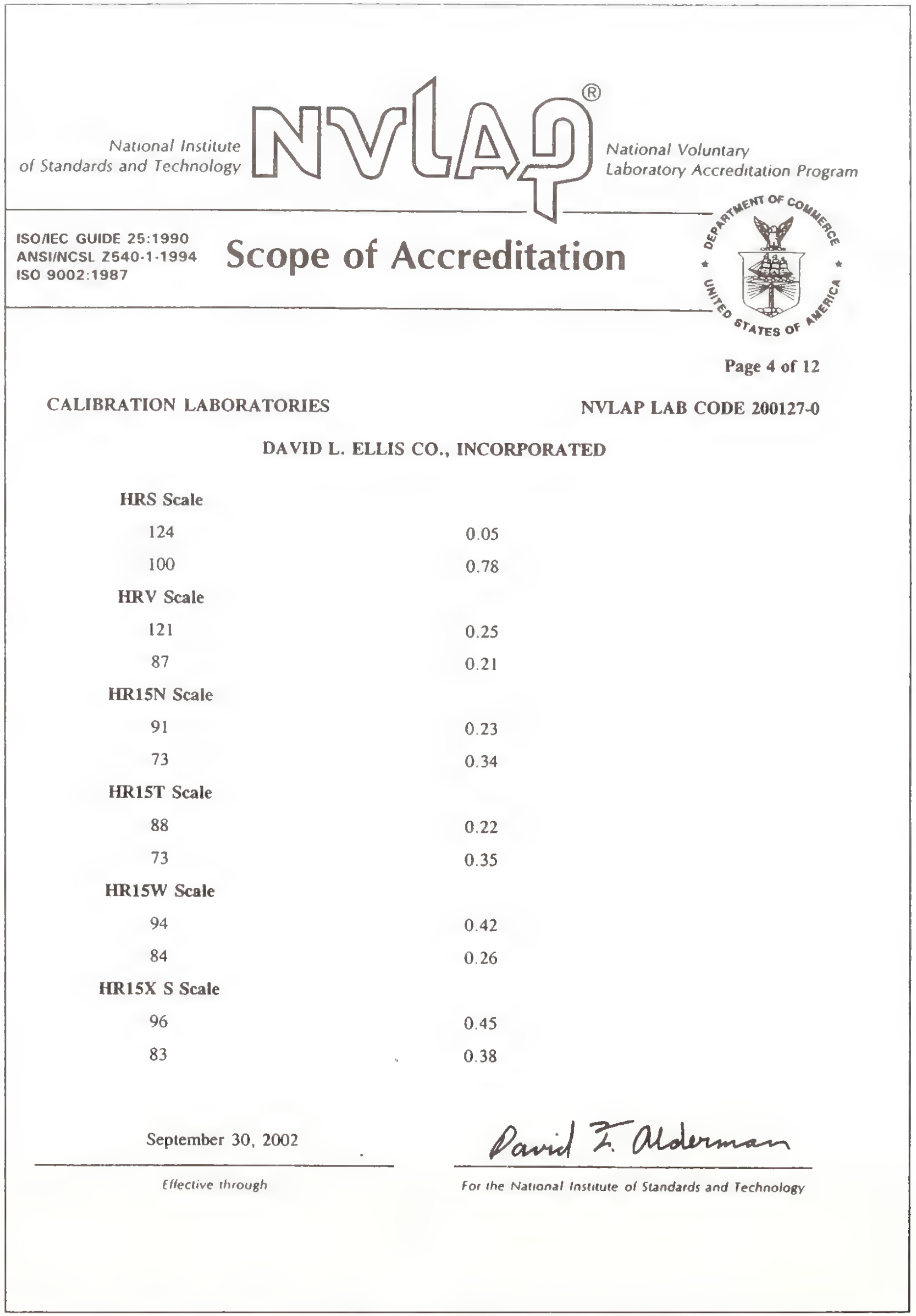

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DAVID L. ELLIS CO., INCORPORATED

HRS Scale	
124	0.05
100	0.78
HRV Scale	
121	0.25
87	0.21
HR15N Scale	
91	0.23
73	0.34
HR15T Scale	
88	0.22
73	0.35
HR15W Scale	
94	0.42
84	0.26
HR15X S Scale	
96	0.45
83	0.38

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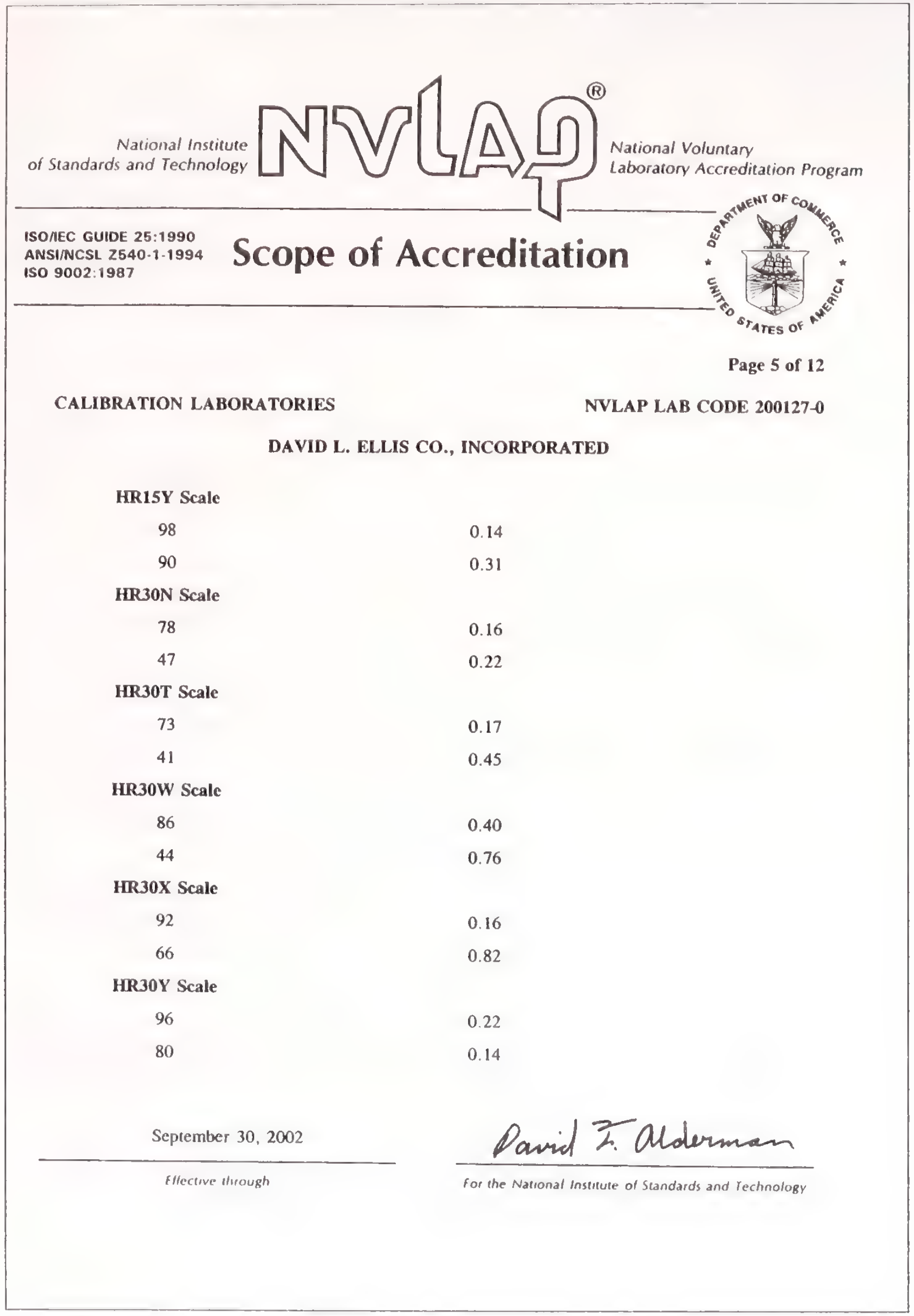

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CALIBRATION LABORATORIES **NVLAP LAB CODE 200127-0**

DAVID L. ELLIS CO., INCORPORATED

HR15Y Scale	
98	0.14
90	0.31
HR30N Scale	
78	0.16
47	0.22
HR30T Scale	
73	0.17
41	0.45
HR30W Scale	
86	0.40
44	0.76
HR30X Scale	
92	0.16
66	0.82
HR30Y Scale	
96	0.22
80	0.14

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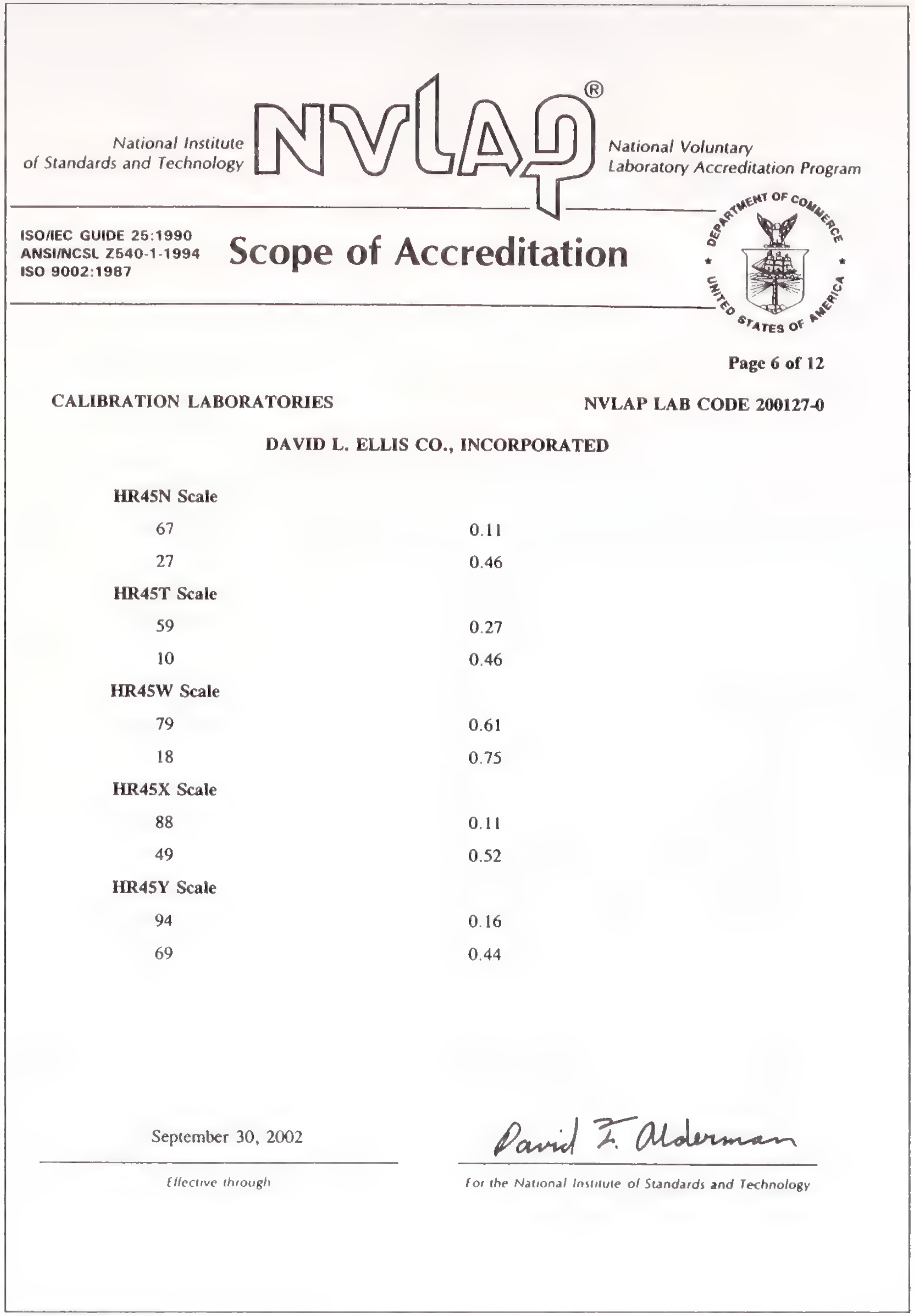

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DAVID L. ELLIS CO., INCORPORATED

HR45N Scale	
67	0.11
27	0.46
HR45T Scale	
59	0.27
10	0.46
HR45W Scale	
79	0.61
18	0.75
HR45X Scale	
88	0.11
49	0.52
HR45Y Scale	
94	0.16
69	0.44

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DAVID L. ELLIS CO., INCORPORATED

NVLAP Code: 20/M13
Field Service Indirect Verfication of Hardness Testing Machines

Hardness Scale and Range	*Best Uncertainty (±) in Rockwell Points*$^{notes\ 1,2}$	*Remarks*
HRA Steel Scale		
80	0.15	
64	0.25	
HRB Scale		
84	0.61	
40	0.96	
HRC Scale		
65	0.31	
45	0.36	
26	0.40	
HRD Scale		
71	0.10	
46	0.11	

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DAVID L. ELLIS CO., INCORPORATED

HRE Scale	
100	0.70
77	0.45
HRF Scale	
96	0.71
78	0.55
HRG Scale	
91	0.26
44	0.84
HRH Scale	
102	0.42
84	0.67
HRK Scale	
96	0.38
54	0.85
HRL Scale	
123	0.13
102	0.49

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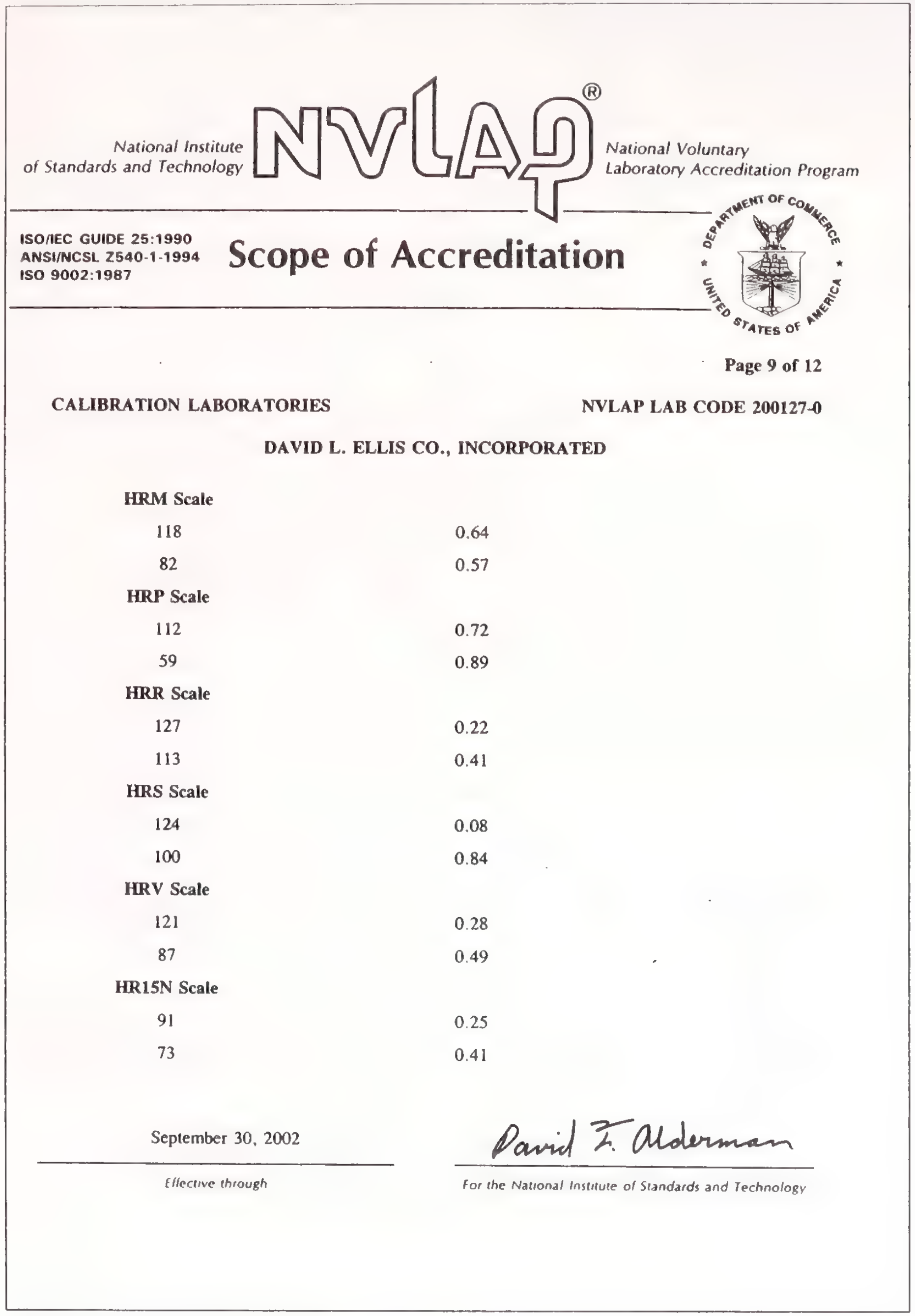

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DAVID L. ELLIS CO., INCORPORATED

HRM Scale	
118	0.64
82	0.57
HRP Scale	
112	0.72
59	0.89
HRR Scale	
127	0.22
113	0.41
HRS Scale	
124	0.08
100	0.84
HRV Scale	
121	0.28
87	0.49
HR15N Scale	
91	0.25
73	0.41

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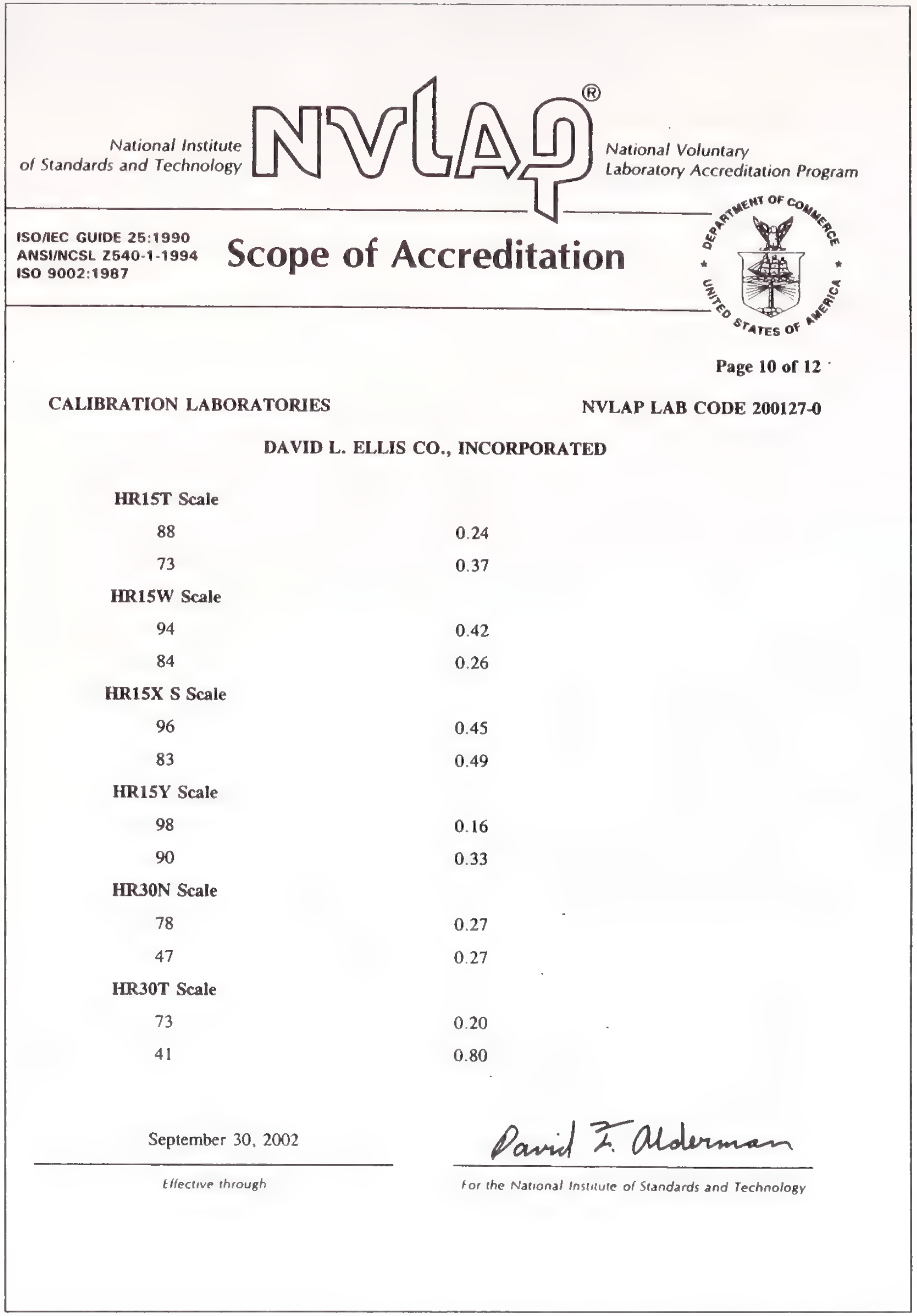

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DAVID L. ELLIS CO., INCORPORATED

HR15T Scale	
88	0.24
73	0.37
HR15W Scale	
94	0.42
84	0.26
HR15X S Scale	
96	0.45
83	0.49
HR15Y Scale	
98	0.16
90	0.33
HR30N Scale	
78	0.27
47	0.27
HR30T Scale	
73	0.20
41	0.80

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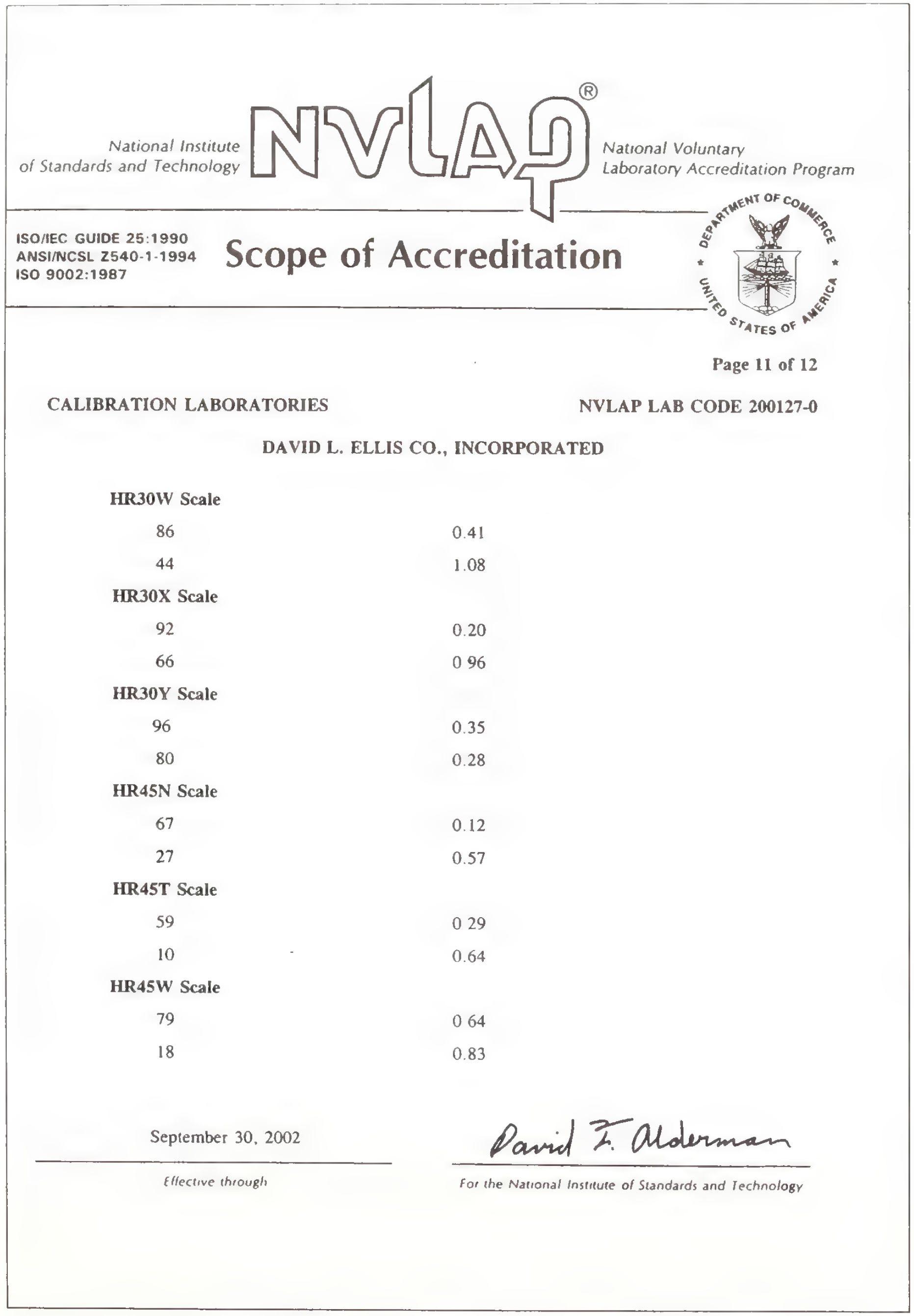

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DAVID L. ELLIS CO., INCORPORATED

HR30W Scale	
86	0.41
44	1.08
HR30X Scale	
92	0.20
66	0.96
HR30Y Scale	
96	0.35
80	0.28
HR45N Scale	
67	0.12
27	0.57
HR45T Scale	
59	0.29
10	0.64
HR45W Scale	
79	0.64
18	0.83

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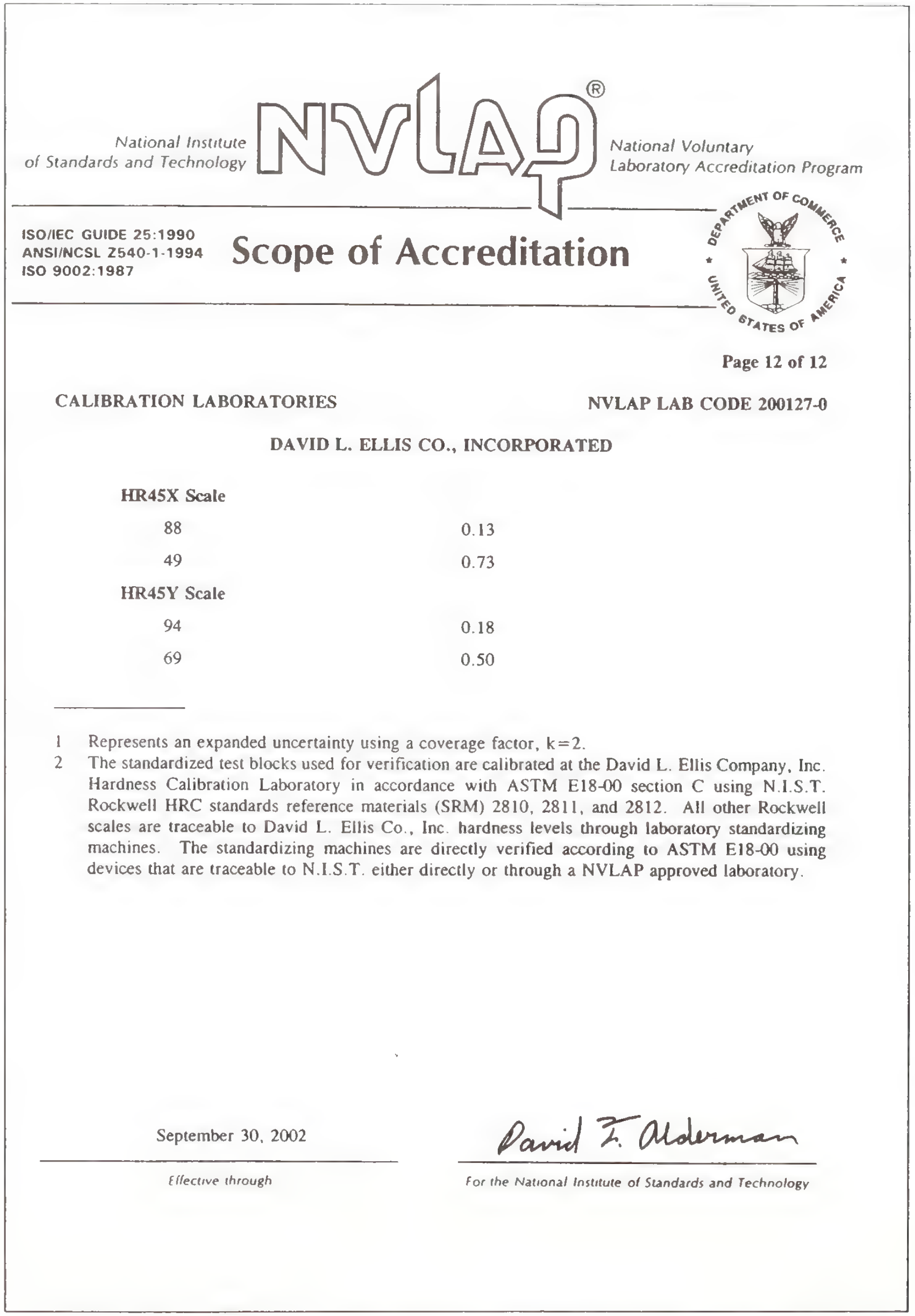

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CALIBRATION LABORATORIES — NVLAP LAB CODE 200127-0

DAVID L. ELLIS CO., INCORPORATED

HR45X Scale	
88	0.13
49	0.73
HR45Y Scale	
94	0.18
69	0.50

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[1] Represents an expanded uncertainty using a coverage factor, k=2.

[2] The standardized test blocks used for verification are calibrated at the David L. Ellis Company, Inc. Hardness Calibration Laboratory in accordance with ASTM E18-00 section C using N.I.S.T. Rockwell HRC standards reference materials (SRM) 2810, 2811, and 2812. All other Rockwell scales are traceable to David L. Ellis Co., Inc. hardness levels through laboratory standardizing machines. The standardizing machines are directly verified according to ASTM E18-00 using devices that are traceable to N.I.S.T. either directly or through a NVLAP approved laboratory.

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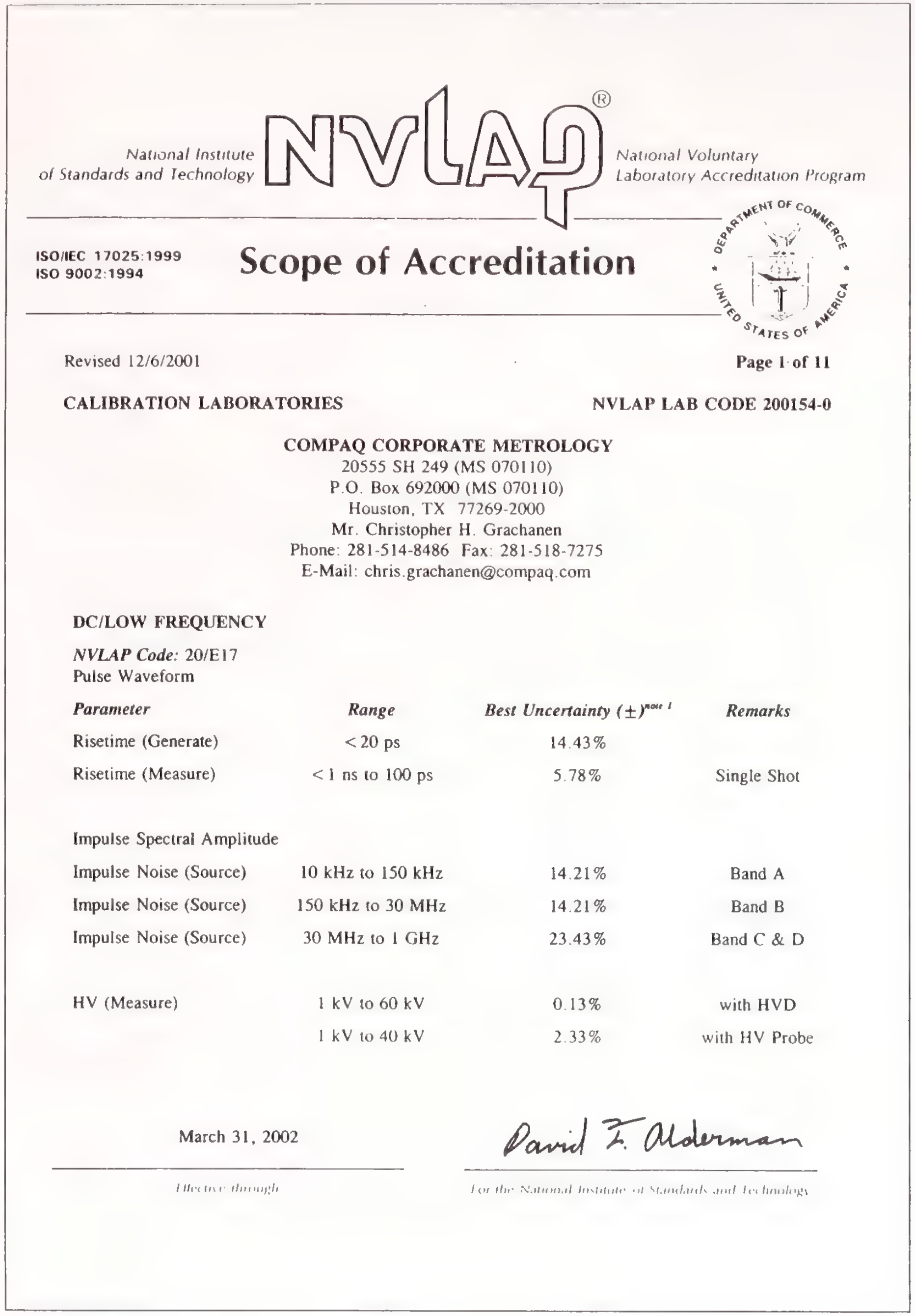

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CALIBRATION LABORATORIES **NVLAP LAB CODE 200154-0**

COMPAQ CORPORATE METROLOGY
20555 SH 249 (MS 070110)
P.O. Box 692000 (MS 070110)
Houston, TX 77269-2000
Mr. Christopher H. Grachanen
Phone: 281-514-8486 Fax: 281-518-7275
E-Mail: chris.grachanen@compaq.com

DC/LOW FREQUENCY

NVLAP Code: 20/E17
Pulse Waveform

Parameter	*Range*	*Best Uncertainty* (±)$^{note\ 1}$	*Remarks*
Risetime (Generate)	< 20 ps	14.43%	
Risetime (Measure)	< 1 ns to 100 ps	5.78%	Single Shot
Impulse Spectral Amplitude			
Impulse Noise (Source)	10 kHz to 150 kHz	14.21%	Band A
Impulse Noise (Source)	150 kHz to 30 MHz	14.21%	Band B
Impulse Noise (Source)	30 MHz to 1 GHz	23.43%	Band C & D
HV (Measure)	1 kV to 60 kV	0.13%	with HVD
	1 kV to 40 kV	2.33%	with HV Probe

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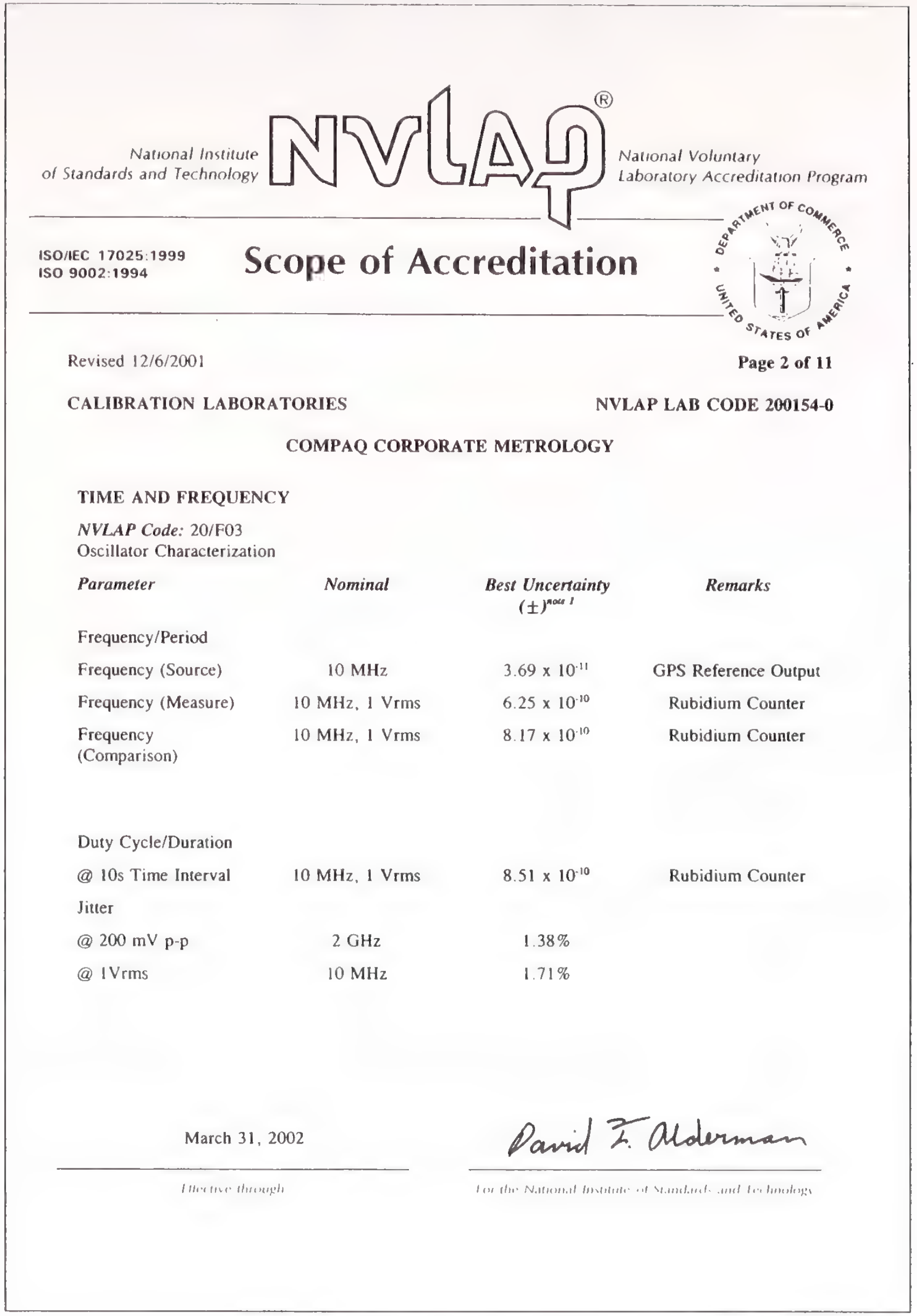

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Scope of Accreditation

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CALIBRATION LABORATORIES **NVLAP LAB CODE 200154-0**

COMPAQ CORPORATE METROLOGY

TIME AND FREQUENCY

NVLAP Code: 20/F03
Oscillator Characterization

Parameter	*Nominal*	*Best Uncertainty* (±)$^{note\ 1}$	*Remarks*
Frequency/Period			
Frequency (Source)	10 MHz	3.69×10^{-11}	GPS Reference Output
Frequency (Measure)	10 MHz, 1 Vrms	6.25×10^{-10}	Rubidium Counter
Frequency (Comparison)	10 MHz, 1 Vrms	8.17×10^{-10}	Rubidium Counter
Duty Cycle/Duration			
@ 10s Time Interval	10 MHz, 1 Vrms	8.51×10^{-10}	Rubidium Counter
Jitter			
@ 200 mV p-p	2 GHz	1.38%	
@ 1Vrms	10 MHz	1.71%	

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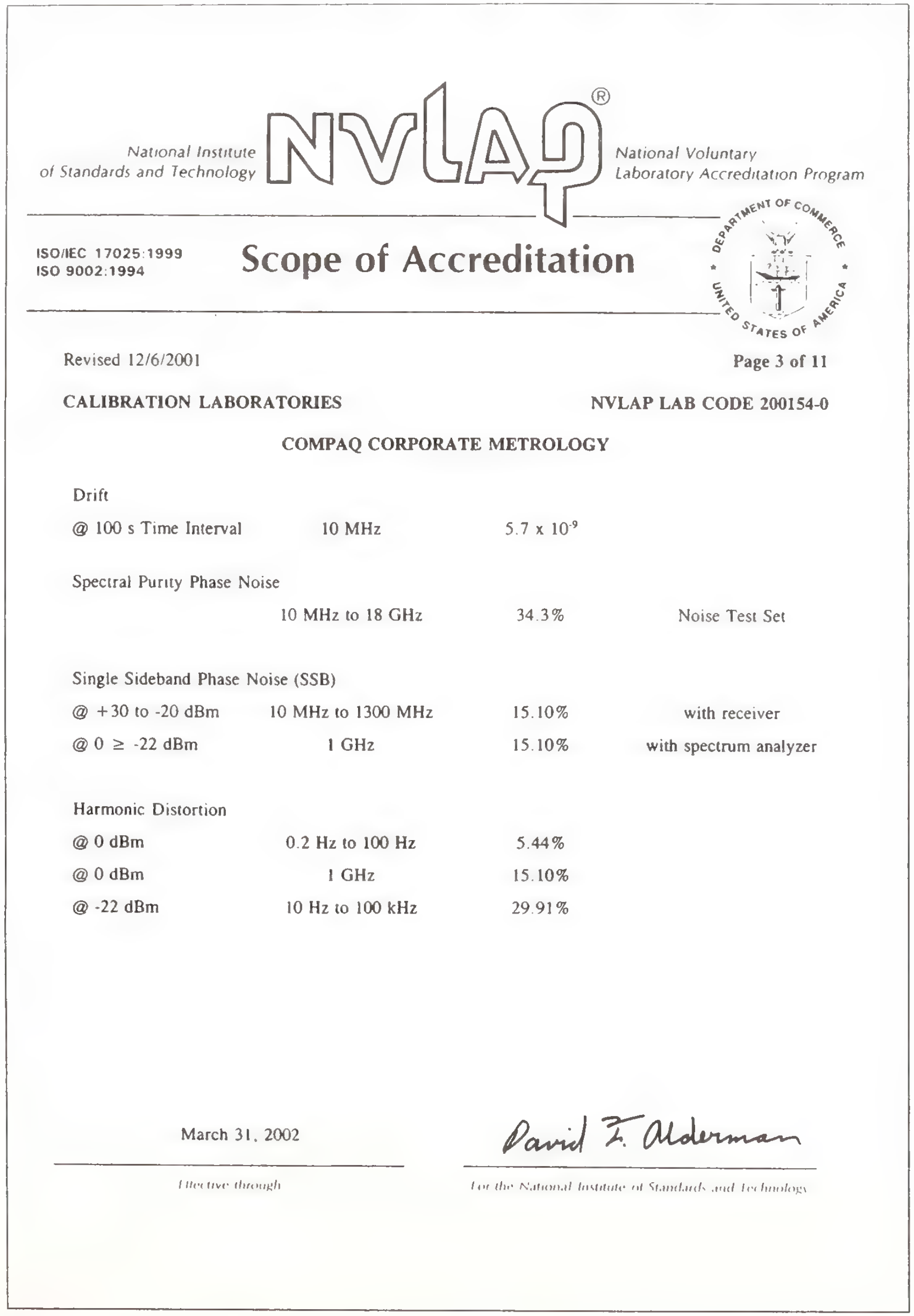

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COMPAQ CORPORATE METROLOGY

Drift			
@ 100 s Time Interval	10 MHz	5.7×10^{-9}	
Spectral Purity Phase Noise			
	10 MHz to 18 GHz	34.3%	Noise Test Set
Single Sideband Phase Noise (SSB)			
@ +30 to -20 dBm	10 MHz to 1300 MHz	15.10%	with receiver
@ 0 ≥ -22 dBm	1 GHz	15.10%	with spectrum analyzer
Harmonic Distortion			
@ 0 dBm	0.2 Hz to 100 Hz	5.44%	
@ 0 dBm	1 GHz	15.10%	
@ -22 dBm	10 Hz to 100 kHz	29.91%	

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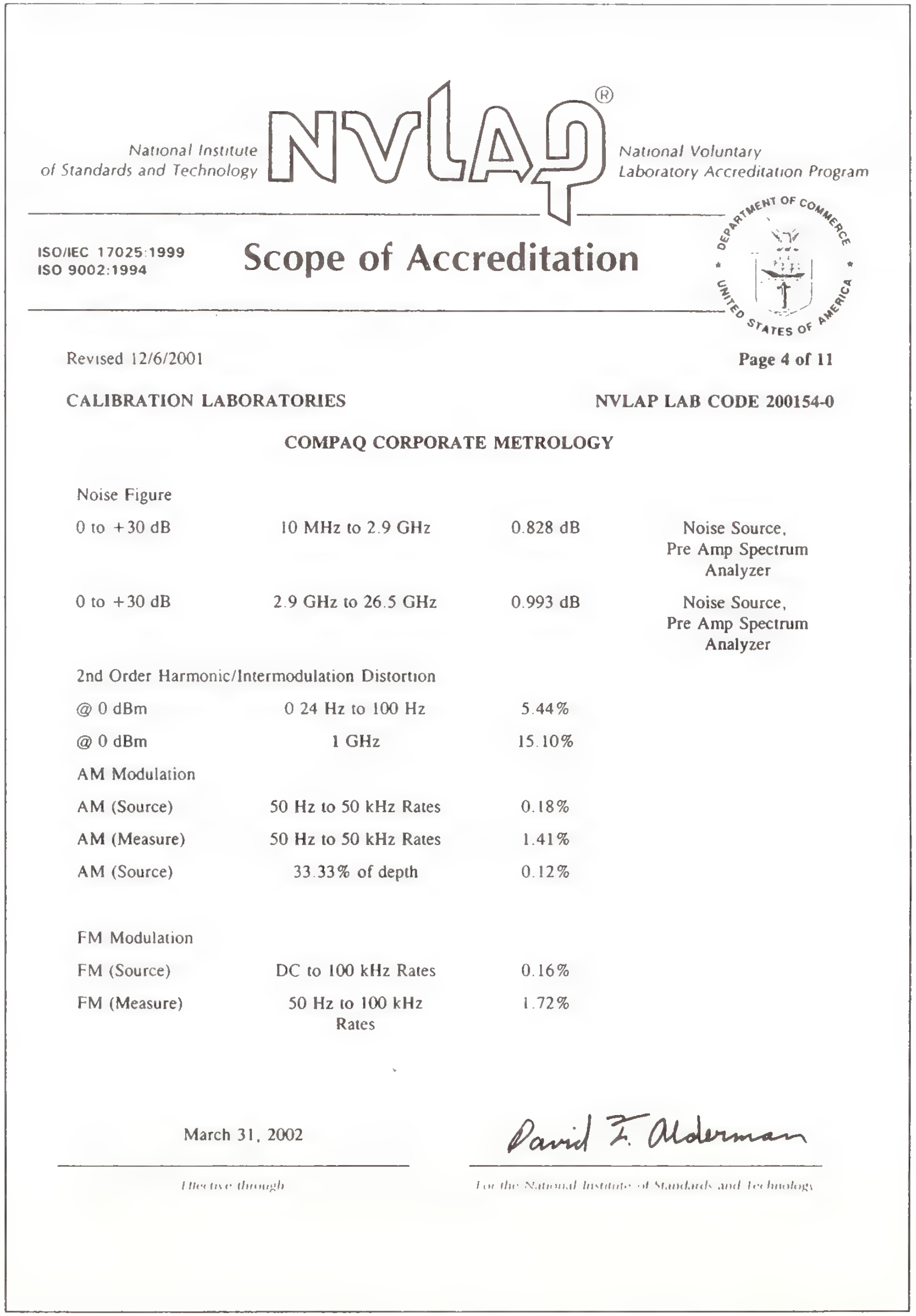

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COMPAQ CORPORATE METROLOGY

Noise Figure			
0 to +30 dB	10 MHz to 2.9 GHz	0.828 dB	Noise Source, Pre Amp Spectrum Analyzer
0 to +30 dB	2.9 GHz to 26.5 GHz	0.993 dB	Noise Source, Pre Amp Spectrum Analyzer
2nd Order Harmonic/Intermodulation Distortion			
@ 0 dBm	0.24 Hz to 100 Hz	5.44%	
@ 0 dBm	1 GHz	15.10%	
AM Modulation			
AM (Source)	50 Hz to 50 kHz Rates	0.18%	
AM (Measure)	50 Hz to 50 kHz Rates	1.41%	
AM (Source)	33.33% of depth	0.12%	
FM Modulation			
FM (Source)	DC to 100 kHz Rates	0.16%	
FM (Measure)	50 Hz to 100 kHz Rates	1.72%	

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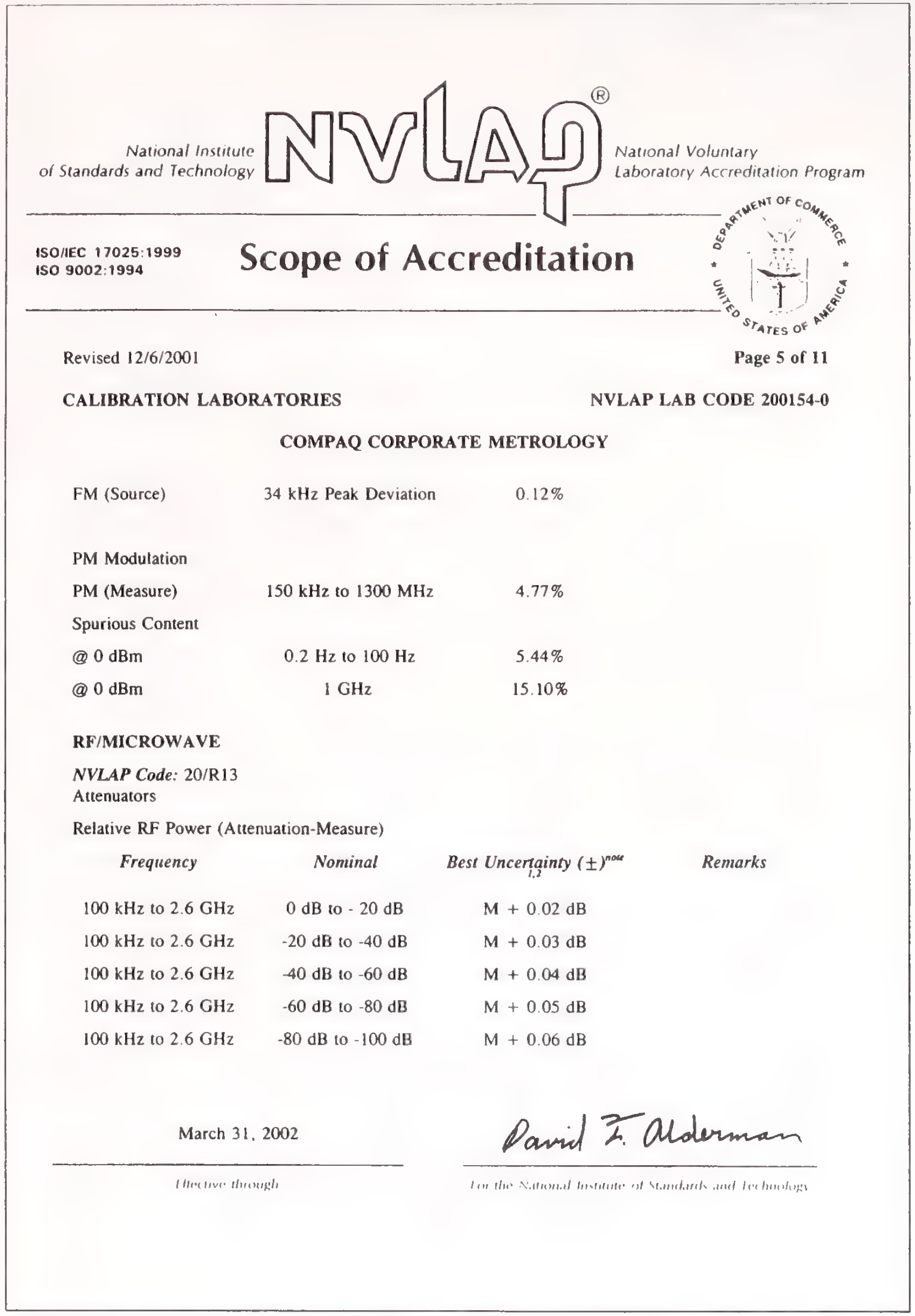

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COMPAQ CORPORATE METROLOGY

FM (Source)	34 kHz Peak Deviation	0.12%
PM Modulation		
PM (Measure)	150 kHz to 1300 MHz	4.77%
Spurious Content		
@ 0 dBm	0.2 Hz to 100 Hz	5.44%
@ 0 dBm	1 GHz	15.10%

RF/MICROWAVE

NVLAP Code: 20/R13
Attenuators

Relative RF Power (Attenuation-Measure)

Frequency	*Nominal*	*Best Uncertainty* (±)$^{\text{note 1,2}}$	*Remarks*
100 kHz to 2.6 GHz	0 dB to - 20 dB	M + 0.02 dB	
100 kHz to 2.6 GHz	-20 dB to -40 dB	M + 0.03 dB	
100 kHz to 2.6 GHz	-40 dB to -60 dB	M + 0.04 dB	
100 kHz to 2.6 GHz	-60 dB to -80 dB	M + 0.05 dB	
100 kHz to 2.6 GHz	-80 dB to -100 dB	M + 0.06 dB	

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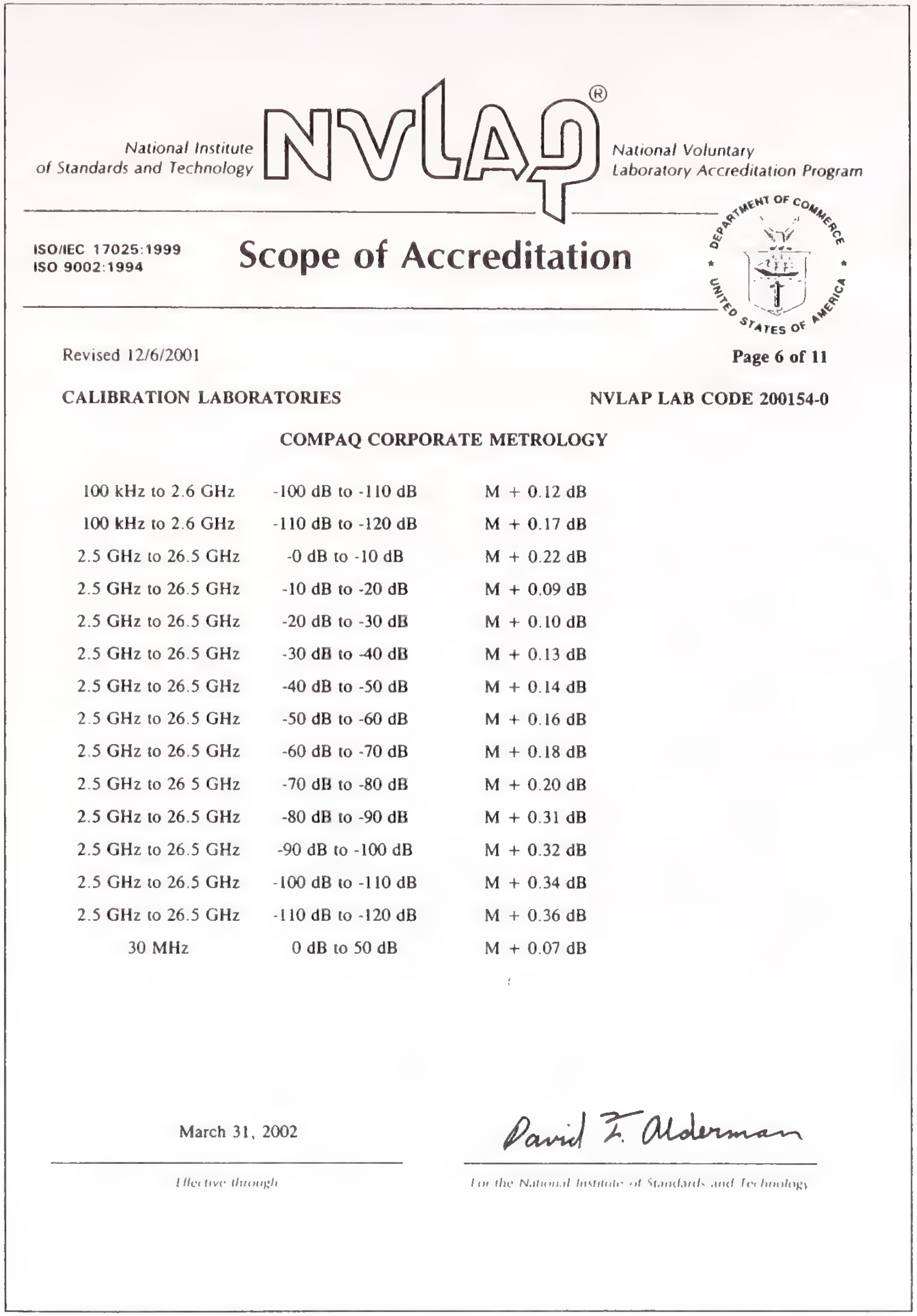

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COMPAQ CORPORATE METROLOGY

100 kHz to 2.6 GHz	-100 dB to -110 dB	M + 0.12 dB
100 kHz to 2.6 GHz	-110 dB to -120 dB	M + 0.17 dB
2.5 GHz to 26.5 GHz	-0 dB to -10 dB	M + 0.22 dB
2.5 GHz to 26.5 GHz	-10 dB to -20 dB	M + 0.09 dB
2.5 GHz to 26.5 GHz	-20 dB to -30 dB	M + 0.10 dB
2.5 GHz to 26.5 GHz	-30 dB to -40 dB	M + 0.13 dB
2.5 GHz to 26.5 GHz	-40 dB to -50 dB	M + 0.14 dB
2.5 GHz to 26.5 GHz	-50 dB to -60 dB	M + 0.16 dB
2.5 GHz to 26.5 GHz	-60 dB to -70 dB	M + 0.18 dB
2.5 GHz to 26 5 GHz	-70 dB to -80 dB	M + 0.20 dB
2.5 GHz to 26.5 GHz	-80 dB to -90 dB	M + 0.31 dB
2.5 GHz to 26.5 GHz	-90 dB to -100 dB	M + 0.32 dB
2.5 GHz to 26.5 GHz	-100 dB to -110 dB	M + 0.34 dB
2.5 GHz to 26.5 GHz	-110 dB to -120 dB	M + 0.36 dB
30 MHz	0 dB to 50 dB	M + 0.07 dB

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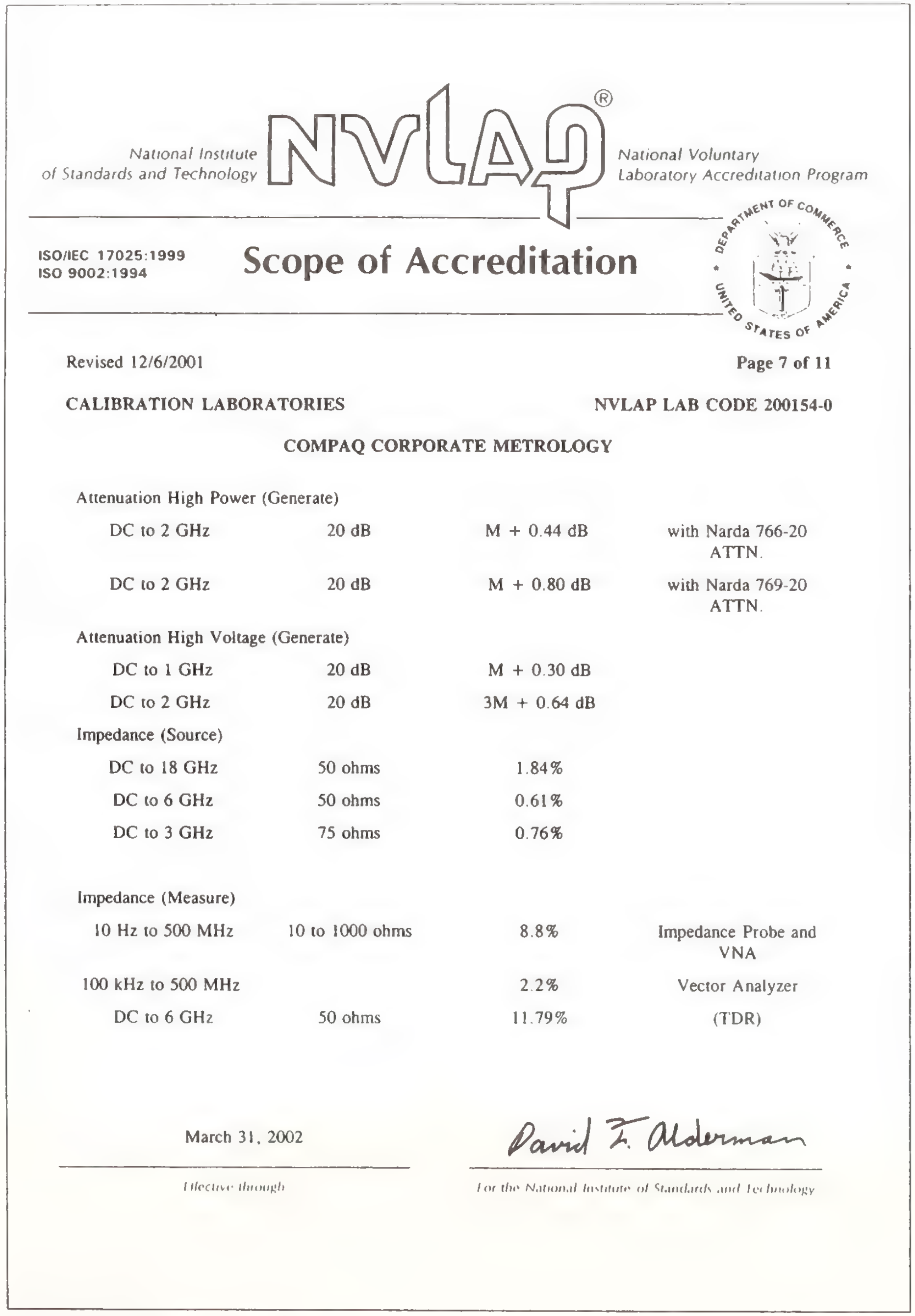

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COMPAQ CORPORATE METROLOGY

Attenuation High Power (Generate)

DC to 2 GHz	20 dB	M + 0.44 dB	with Narda 766-20 ATTN.
DC to 2 GHz	20 dB	M + 0.80 dB	with Narda 769-20 ATTN.

Attenuation High Voltage (Generate)

DC to 1 GHz	20 dB	M + 0.30 dB	
DC to 2 GHz	20 dB	3M + 0.64 dB	

Impedance (Source)

DC to 18 GHz	50 ohms	1.84%	
DC to 6 GHz	50 ohms	0.61%	
DC to 3 GHz	75 ohms	0.76%	

Impedance (Measure)

10 Hz to 500 MHz	10 to 1000 ohms	8.8%	Impedance Probe and VNA
100 kHz to 500 MHz		2.2%	Vector Analyzer
DC to 6 GHz	50 ohms	11.79%	(TDR)

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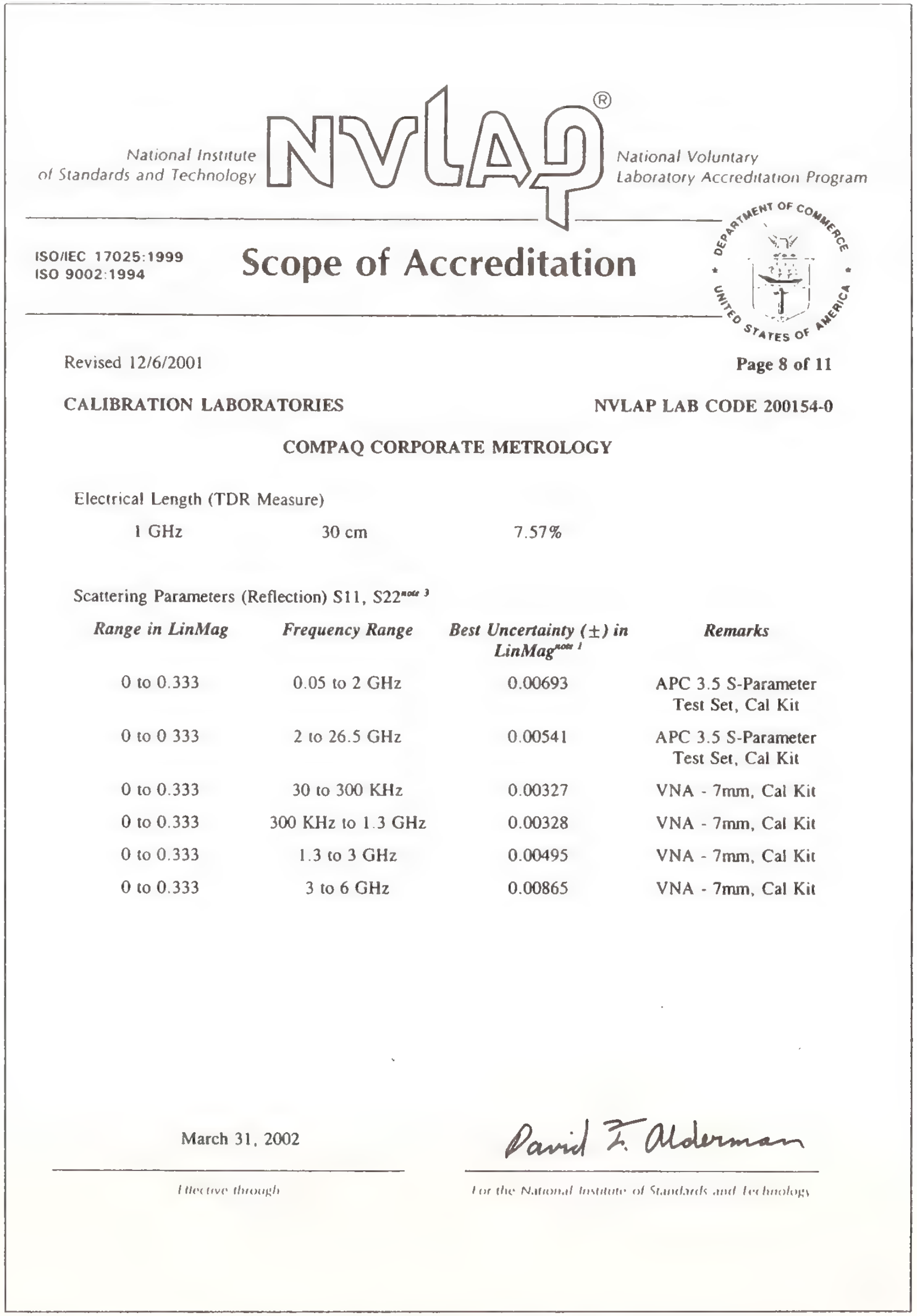

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COMPAQ CORPORATE METROLOGY

Electrical Length (TDR Measure)

1 GHz	30 cm	7.57%

Scattering Parameters (Reflection) S11, S22$^{note\ 3}$

Range in LinMag	*Frequency Range*	*Best Uncertainty (±) in LinMag$^{note\ 1}$*	*Remarks*
0 to 0.333	0.05 to 2 GHz	0.00693	APC 3.5 S-Parameter Test Set, Cal Kit
0 to 0 333	2 to 26.5 GHz	0.00541	APC 3.5 S-Parameter Test Set, Cal Kit
0 to 0.333	30 to 300 KHz	0.00327	VNA - 7mm, Cal Kit
0 to 0.333	300 KHz to 1.3 GHz	0.00328	VNA - 7mm, Cal Kit
0 to 0.333	1.3 to 3 GHz	0.00495	VNA - 7mm, Cal Kit
0 to 0.333	3 to 6 GHz	0.00865	VNA - 7mm, Cal Kit

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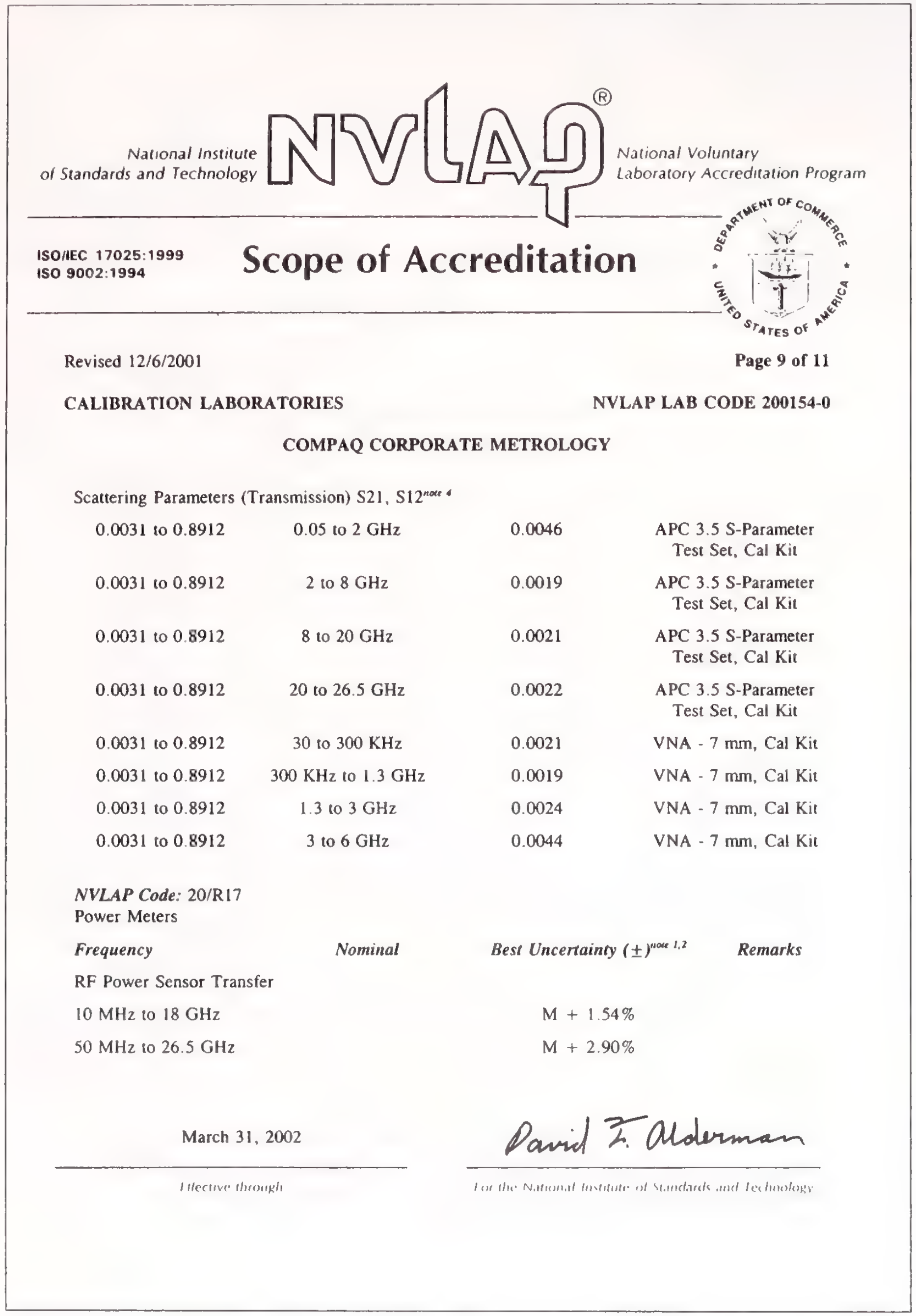

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COMPAQ CORPORATE METROLOGY

Scattering Parameters (Transmission) S21, S12[note 4]

0.0031 to 0.8912	0.05 to 2 GHz	0.0046	APC 3.5 S-Parameter Test Set, Cal Kit
0.0031 to 0.8912	2 to 8 GHz	0.0019	APC 3.5 S-Parameter Test Set, Cal Kit
0.0031 to 0.8912	8 to 20 GHz	0.0021	APC 3.5 S-Parameter Test Set, Cal Kit
0.0031 to 0.8912	20 to 26.5 GHz	0.0022	APC 3.5 S-Parameter Test Set, Cal Kit
0.0031 to 0.8912	30 to 300 KHz	0.0021	VNA - 7 mm, Cal Kit
0.0031 to 0.8912	300 KHz to 1.3 GHz	0.0019	VNA - 7 mm, Cal Kit
0.0031 to 0.8912	1.3 to 3 GHz	0.0024	VNA - 7 mm, Cal Kit
0.0031 to 0.8912	3 to 6 GHz	0.0044	VNA - 7 mm, Cal Kit

NVLAP Code: 20/R17
Power Meters

Frequency	*Nominal*	*Best Uncertainty* (±)[note 1,2]	*Remarks*
RF Power Sensor Transfer			
10 MHz to 18 GHz		M + 1.54%	
50 MHz to 26.5 GHz		M + 2.90%	

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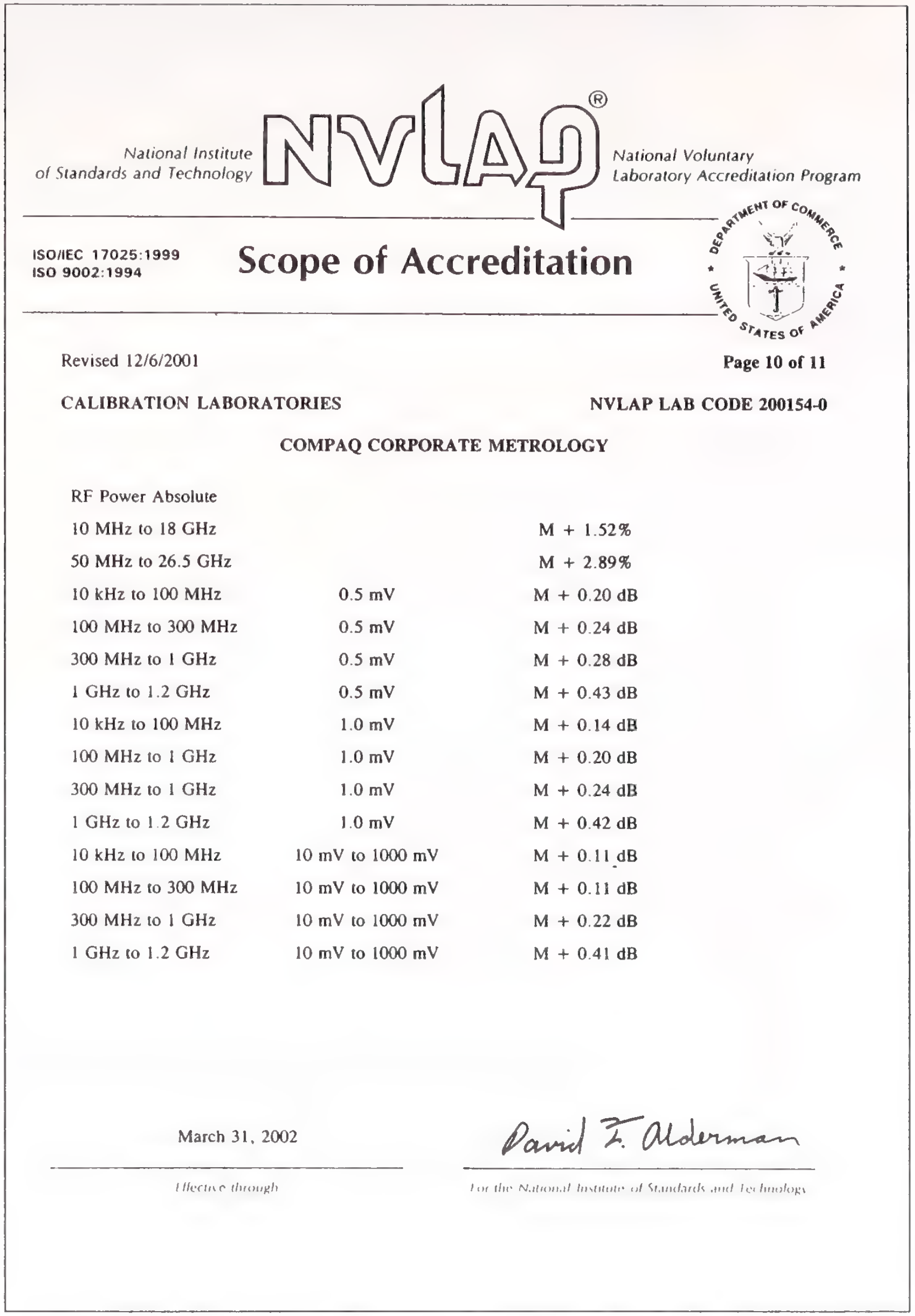

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ISO/IEC 17025:1999
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CALIBRATION LABORATORIES **NVLAP LAB CODE 200154-0**

COMPAQ CORPORATE METROLOGY

RF Power Absolute		
10 MHz to 18 GHz		M + 1.52%
50 MHz to 26.5 GHz		M + 2.89%
10 kHz to 100 MHz	0.5 mV	M + 0.20 dB
100 MHz to 300 MHz	0.5 mV	M + 0.24 dB
300 MHz to 1 GHz	0.5 mV	M + 0.28 dB
1 GHz to 1.2 GHz	0.5 mV	M + 0.43 dB
10 kHz to 100 MHz	1.0 mV	M + 0.14 dB
100 MHz to 1 GHz	1.0 mV	M + 0.20 dB
300 MHz to 1 GHz	1.0 mV	M + 0.24 dB
1 GHz to 1.2 GHz	1.0 mV	M + 0.42 dB
10 kHz to 100 MHz	10 mV to 1000 mV	M + 0.11 dB
100 MHz to 300 MHz	10 mV to 1000 mV	M + 0.11 dB
300 MHz to 1 GHz	10 mV to 1000 mV	M + 0.22 dB
1 GHz to 1.2 GHz	10 mV to 1000 mV	M + 0.41 dB

March 31, 2002
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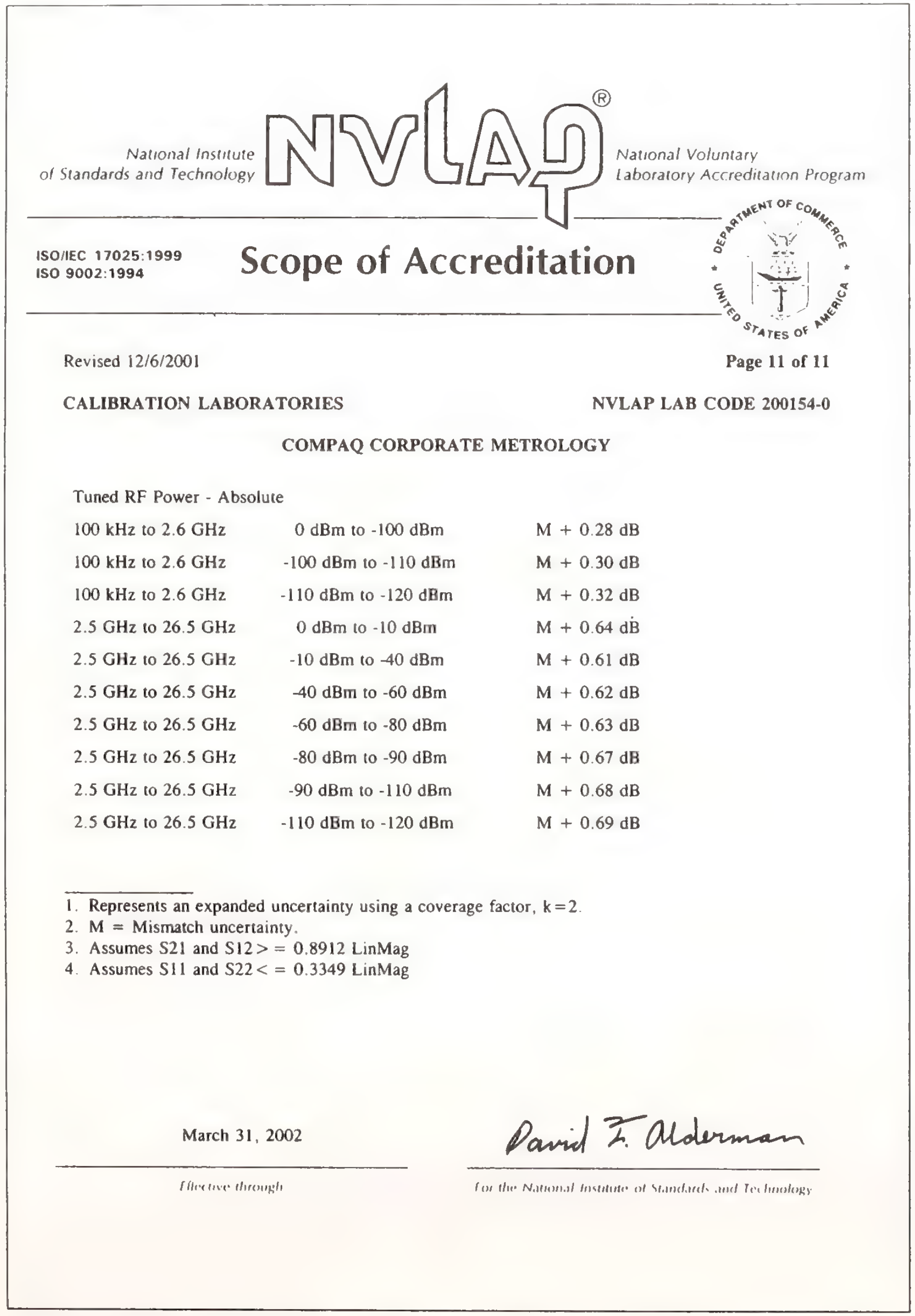

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CALIBRATION LABORATORIES NVLAP LAB CODE 200154-0

COMPAQ CORPORATE METROLOGY

Tuned RF Power - Absolute

100 kHz to 2.6 GHz	0 dBm to -100 dBm	M + 0.28 dB
100 kHz to 2.6 GHz	-100 dBm to -110 dBm	M + 0.30 dB
100 kHz to 2.6 GHz	-110 dBm to -120 dBm	M + 0.32 dB
2.5 GHz to 26.5 GHz	0 dBm to -10 dBm	M + 0.64 dB
2.5 GHz to 26.5 GHz	-10 dBm to -40 dBm	M + 0.61 dB
2.5 GHz to 26.5 GHz	-40 dBm to -60 dBm	M + 0.62 dB
2.5 GHz to 26.5 GHz	-60 dBm to -80 dBm	M + 0.63 dB
2.5 GHz to 26.5 GHz	-80 dBm to -90 dBm	M + 0.67 dB
2.5 GHz to 26.5 GHz	-90 dBm to -110 dBm	M + 0.68 dB
2.5 GHz to 26.5 GHz	-110 dBm to -120 dBm	M + 0.69 dB

---

1. Represents an expanded uncertainty using a coverage factor, k=2.
2. M = Mismatch uncertainty.
3. Assumes S21 and S12>= 0.8912 LinMag
4. Assumes S11 and S22<= 0.3349 LinMag

March 31, 2002
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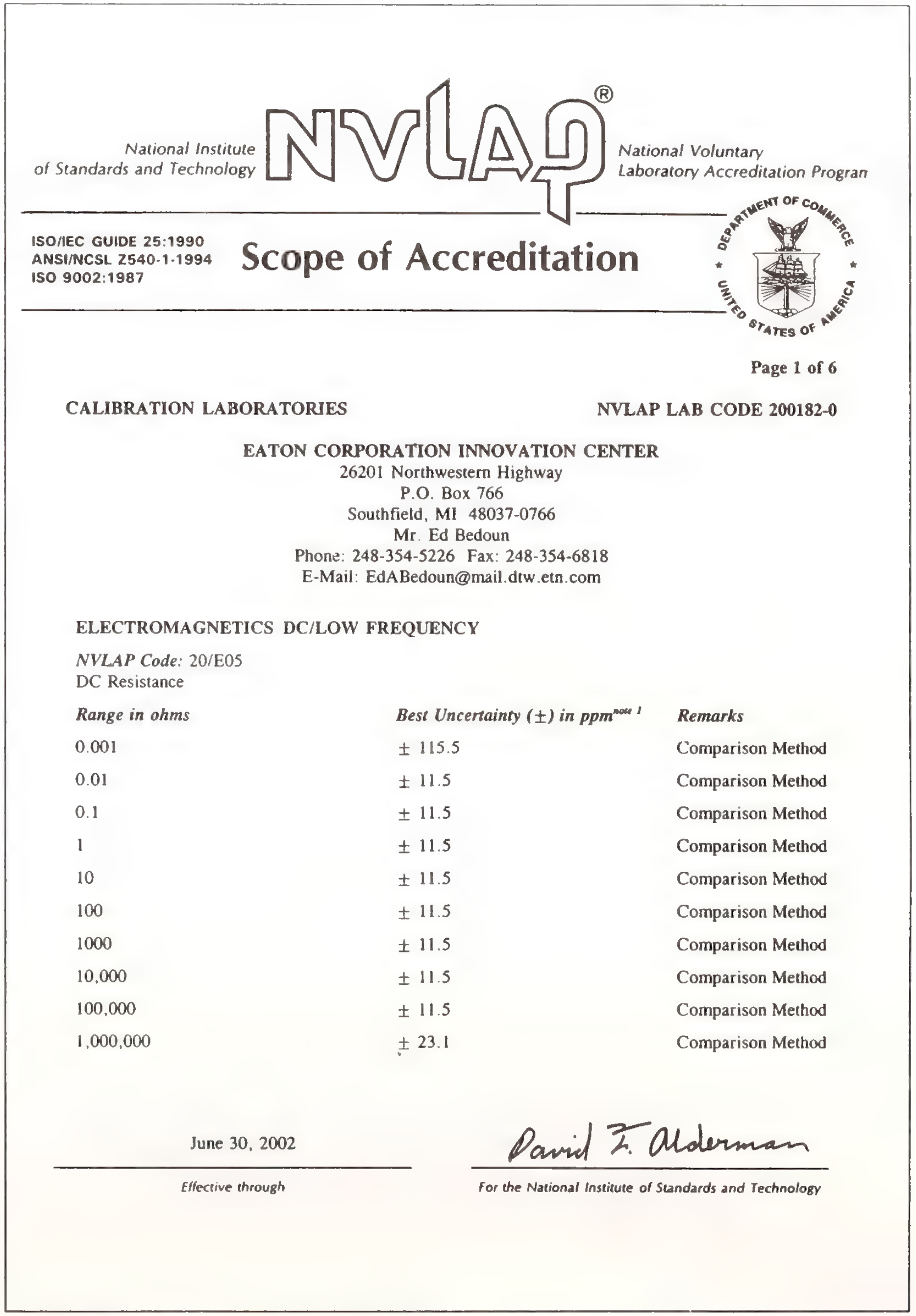

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CALIBRATION LABORATORIES NVLAP LAB CODE 200182-0

EATON CORPORATION INNOVATION CENTER
26201 Northwestern Highway
P.O. Box 766
Southfield, MI 48037-0766
Mr. Ed Bedoun
Phone: 248-354-5226 Fax: 248-354-6818
E-Mail: EdABedoun@mail.dtw.etn.com

ELECTROMAGNETICS DC/LOW FREQUENCY

NVLAP Code: 20/E05
DC Resistance

Range in ohms	*Best Uncertainty (±) in ppm*[note 1]	*Remarks*
0.001	± 115.5	Comparison Method
0.01	± 11.5	Comparison Method
0.1	± 11.5	Comparison Method
1	± 11.5	Comparison Method
10	± 11.5	Comparison Method
100	± 11.5	Comparison Method
1000	± 11.5	Comparison Method
10,000	± 11.5	Comparison Method
100,000	± 11.5	Comparison Method
1,000,000	± 23.1	Comparison Method

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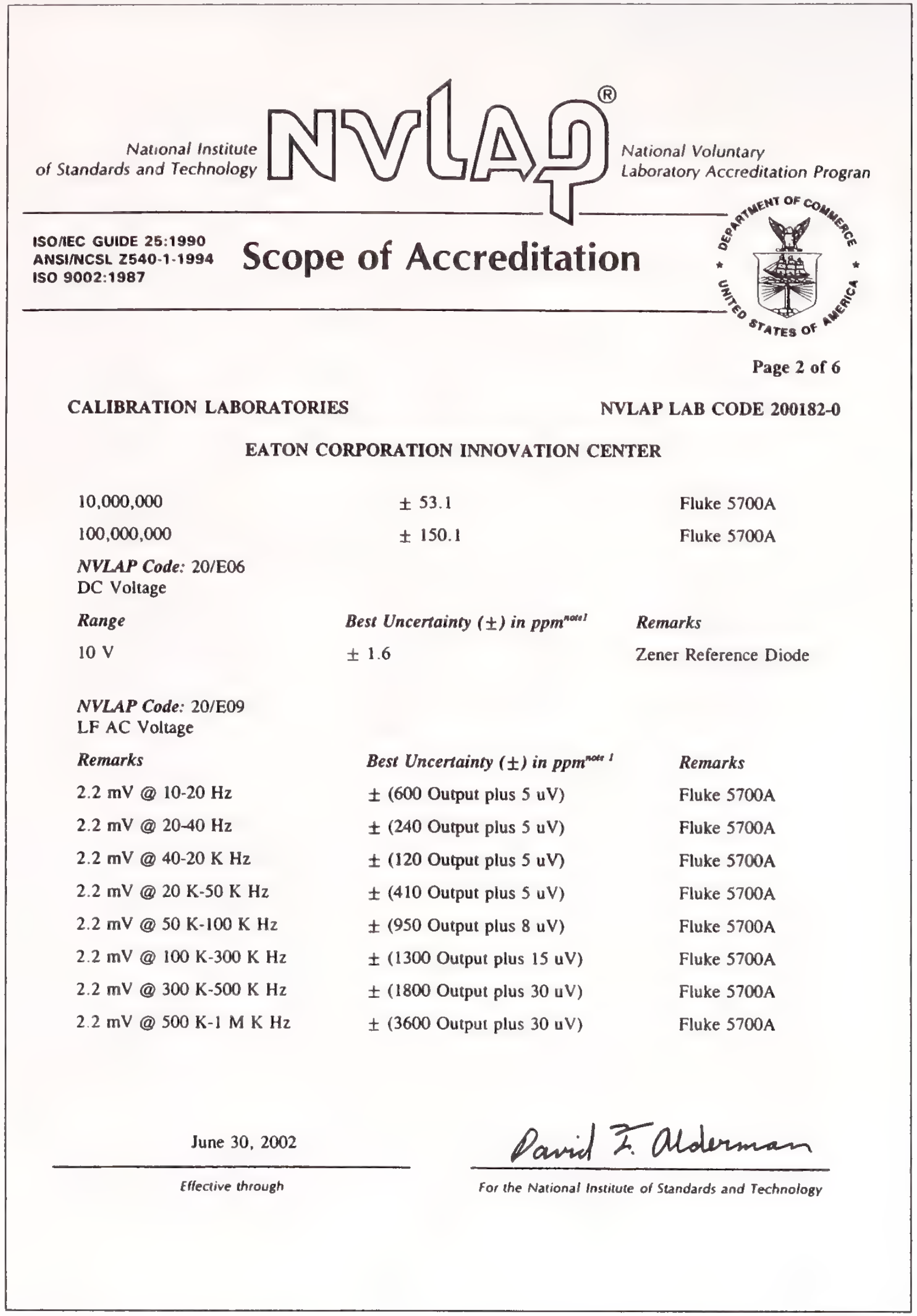
(See 'How To Use This Directory' on page 7.)



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EATON CORPORATION INNOVATION CENTER

10,000,000	± 53.1	Fluke 5700A
100,000,000	± 150.1	Fluke 5700A

NVLAP Code: 20/E06
DC Voltage

Range	*Best Uncertainty (±) in ppm*$^{\text{note 1}}$	*Remarks*
10 V	± 1.6	Zener Reference Diode

NVLAP Code: 20/E09
LF AC Voltage

Remarks	*Best Uncertainty (±) in ppm*$^{\text{note 1}}$	*Remarks*
2.2 mV @ 10-20 Hz	± (600 Output plus 5 uV)	Fluke 5700A
2.2 mV @ 20-40 Hz	± (240 Output plus 5 uV)	Fluke 5700A
2.2 mV @ 40-20 K Hz	± (120 Output plus 5 uV)	Fluke 5700A
2.2 mV @ 20 K-50 K Hz	± (410 Output plus 5 uV)	Fluke 5700A
2.2 mV @ 50 K-100 K Hz	± (950 Output plus 8 uV)	Fluke 5700A
2.2 mV @ 100 K-300 K Hz	± (1300 Output plus 15 uV)	Fluke 5700A
2.2 mV @ 300 K-500 K Hz	± (1800 Output plus 30 uV)	Fluke 5700A
2.2 mV @ 500 K-1 M K Hz	± (3600 Output plus 30 uV)	Fluke 5700A

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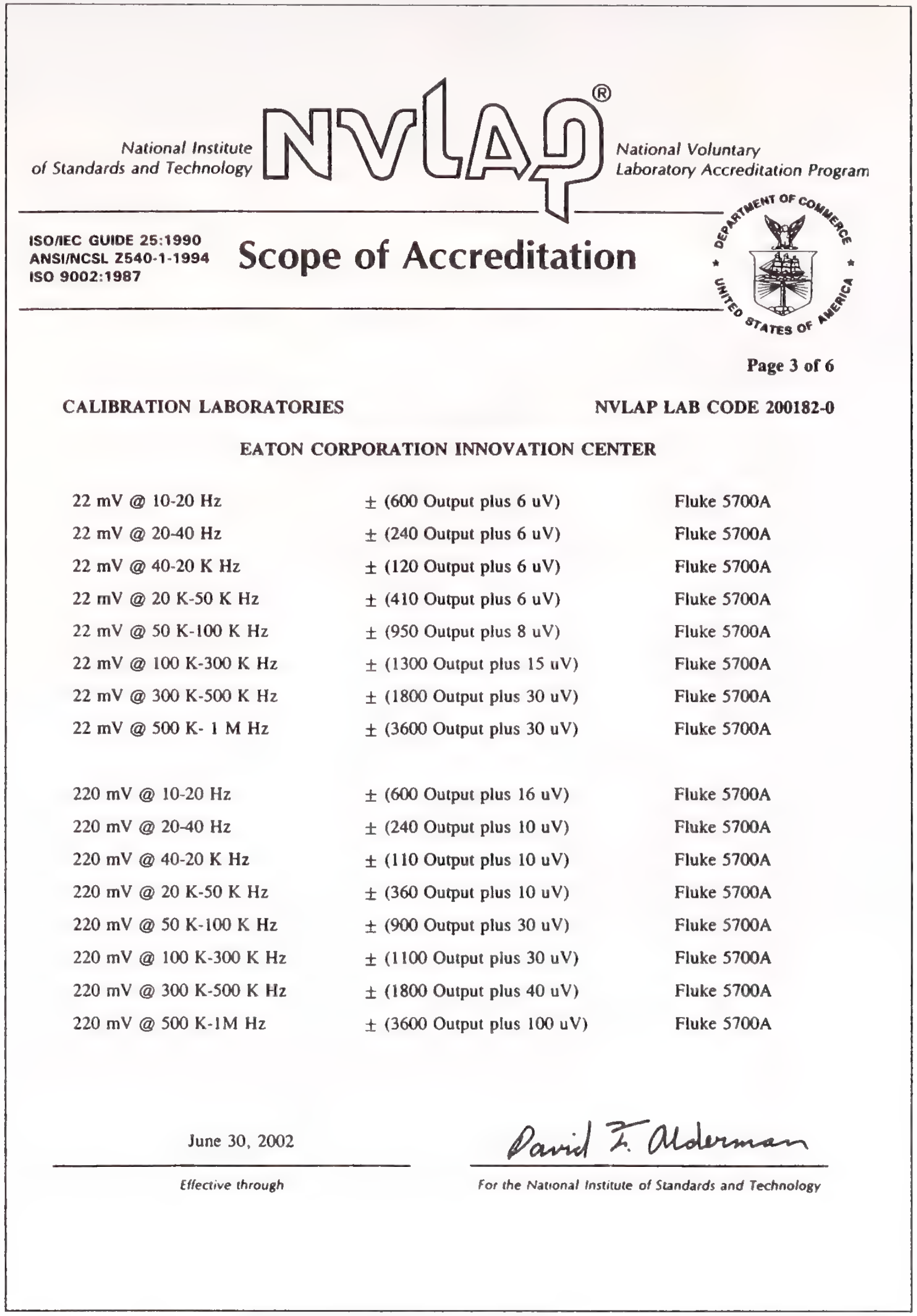

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CALIBRATION LABORATORIES **NVLAP LAB CODE 200182-0**

EATON CORPORATION INNOVATION CENTER

22 mV @ 10-20 Hz	± (600 Output plus 6 uV)	Fluke 5700A
22 mV @ 20-40 Hz	± (240 Output plus 6 uV)	Fluke 5700A
22 mV @ 40-20 K Hz	± (120 Output plus 6 uV)	Fluke 5700A
22 mV @ 20 K-50 K Hz	± (410 Output plus 6 uV)	Fluke 5700A
22 mV @ 50 K-100 K Hz	± (950 Output plus 8 uV)	Fluke 5700A
22 mV @ 100 K-300 K Hz	± (1300 Output plus 15 uV)	Fluke 5700A
22 mV @ 300 K-500 K Hz	± (1800 Output plus 30 uV)	Fluke 5700A
22 mV @ 500 K- 1 M Hz	± (3600 Output plus 30 uV)	Fluke 5700A
220 mV @ 10-20 Hz	± (600 Output plus 16 uV)	Fluke 5700A
220 mV @ 20-40 Hz	± (240 Output plus 10 uV)	Fluke 5700A
220 mV @ 40-20 K Hz	± (110 Output plus 10 uV)	Fluke 5700A
220 mV @ 20 K-50 K Hz	± (360 Output plus 10 uV)	Fluke 5700A
220 mV @ 50 K-100 K Hz	± (900 Output plus 30 uV)	Fluke 5700A
220 mV @ 100 K-300 K Hz	± (1100 Output plus 30 uV)	Fluke 5700A
220 mV @ 300 K-500 K Hz	± (1800 Output plus 40 uV)	Fluke 5700A
220 mV @ 500 K-1M Hz	± (3600 Output plus 100 uV)	Fluke 5700A

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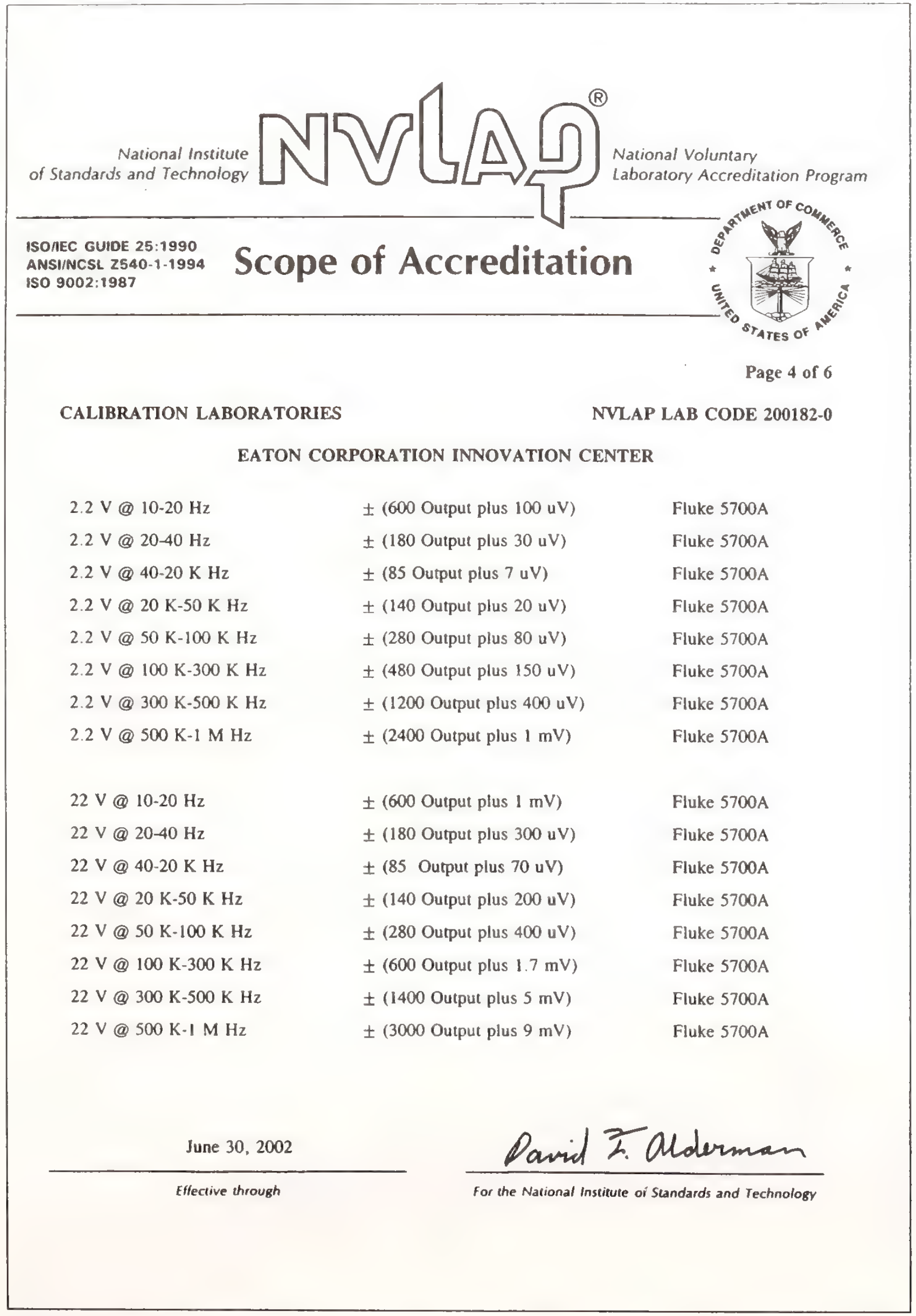

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CALIBRATION LABORATORIES **NVLAP LAB CODE 200182-0**

EATON CORPORATION INNOVATION CENTER

2.2 V @ 10-20 Hz	± (600 Output plus 100 uV)	Fluke 5700A
2.2 V @ 20-40 Hz	± (180 Output plus 30 uV)	Fluke 5700A
2.2 V @ 40-20 K Hz	± (85 Output plus 7 uV)	Fluke 5700A
2.2 V @ 20 K-50 K Hz	± (140 Output plus 20 uV)	Fluke 5700A
2.2 V @ 50 K-100 K Hz	± (280 Output plus 80 uV)	Fluke 5700A
2.2 V @ 100 K-300 K Hz	± (480 Output plus 150 uV)	Fluke 5700A
2.2 V @ 300 K-500 K Hz	± (1200 Output plus 400 uV)	Fluke 5700A
2.2 V @ 500 K-1 M Hz	± (2400 Output plus 1 mV)	Fluke 5700A
22 V @ 10-20 Hz	± (600 Output plus 1 mV)	Fluke 5700A
22 V @ 20-40 Hz	± (180 Output plus 300 uV)	Fluke 5700A
22 V @ 40-20 K Hz	± (85 Output plus 70 uV)	Fluke 5700A
22 V @ 20 K-50 K Hz	± (140 Output plus 200 uV)	Fluke 5700A
22 V @ 50 K-100 K Hz	± (280 Output plus 400 uV)	Fluke 5700A
22 V @ 100 K-300 K Hz	± (600 Output plus 1.7 mV)	Fluke 5700A
22 V @ 300 K-500 K Hz	± (1400 Output plus 5 mV)	Fluke 5700A
22 V @ 500 K-1 M Hz	± (3000 Output plus 9 mV)	Fluke 5700A

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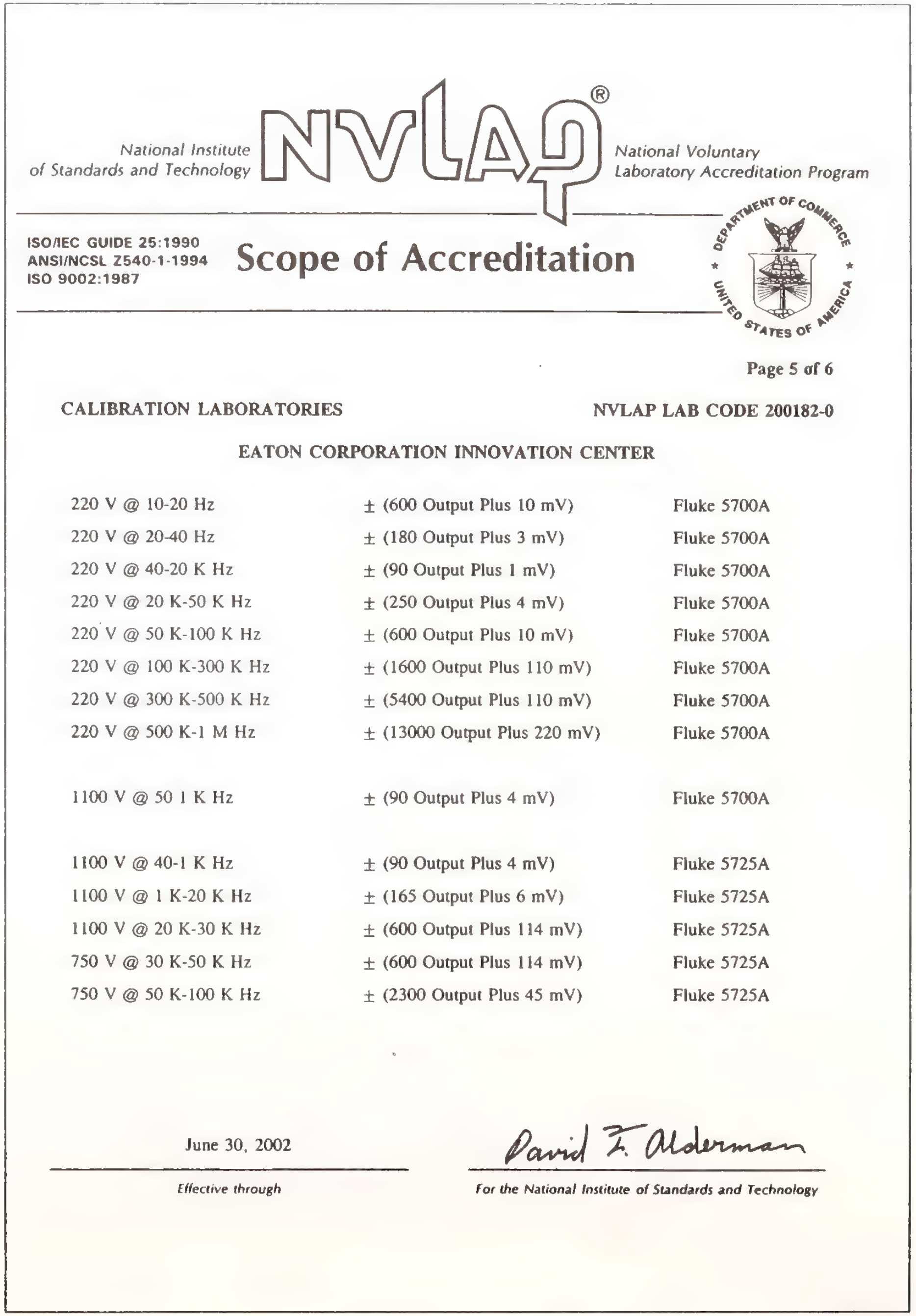

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CALIBRATION LABORATORIES **NVLAP LAB CODE 200182-0**

EATON CORPORATION INNOVATION CENTER

220 V @ 10-20 Hz	± (600 Output Plus 10 mV)	Fluke 5700A
220 V @ 20-40 Hz	± (180 Output Plus 3 mV)	Fluke 5700A
220 V @ 40-20 K Hz	± (90 Output Plus 1 mV)	Fluke 5700A
220 V @ 20 K-50 K Hz	± (250 Output Plus 4 mV)	Fluke 5700A
220 V @ 50 K-100 K Hz	± (600 Output Plus 10 mV)	Fluke 5700A
220 V @ 100 K-300 K Hz	± (1600 Output Plus 110 mV)	Fluke 5700A
220 V @ 300 K-500 K Hz	± (5400 Output Plus 110 mV)	Fluke 5700A
220 V @ 500 K-1 M Hz	± (13000 Output Plus 220 mV)	Fluke 5700A
1100 V @ 50 1 K Hz	± (90 Output Plus 4 mV)	Fluke 5700A
1100 V @ 40-1 K Hz	± (90 Output Plus 4 mV)	Fluke 5725A
1100 V @ 1 K-20 K Hz	± (165 Output Plus 6 mV)	Fluke 5725A
1100 V @ 20 K-30 K Hz	± (600 Output Plus 114 mV)	Fluke 5725A
750 V @ 30 K-50 K Hz	± (600 Output Plus 114 mV)	Fluke 5725A
750 V @ 50 K-100 K Hz	± (2300 Output Plus 45 mV)	Fluke 5725A

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CALIBRATION LABORATORIES | **NVLAP LAB CODE 200182-0**

EATON CORPORATION INNOVATION CENTER

MECHANICAL

NVLAP Code: 20/M11
Vibration

Range	*Best Uncertainty* (±) *in %*$^{note\ 1}$	*Remarks*
5 Hz to 9 Hz	± 2.62%	Comparison Method
10 Hz to 99 Hz	± 1.62%	Comparison Method
100 Hz to 1999 Hz	± 2.41%	Comparison Method
2 K to 10 K Hz	± 2.52%	Comparison Method

---

1. Represents an expanded uncertainty using a coverage factory, k=2.

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CALIBRATION LABORATORIES | **NVLAP LAB CODE 200235-0**

STERIS-ISOMEDIX SERVICES
7828 Nagle Avenue
Morton Grove, IL 60053
Mr. Paul Mellor
Phone: 847-247-0970 Fax: 847-247-0882
E-Mail: paul_mellor@steris.com

IONIZING RADIATION

NVLAP Code: 20/I02
High Dose Dosimetry

Source	*Range*	*Best Uncertainty*(±)$^{note\ 1}$
^{60}Co Gamma Rays	100 grays or more at a rate of approximately 1 to 20 kGy/hour	2.5%

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1. Represents an expanded uncertainty using a coverage factor, k=2.

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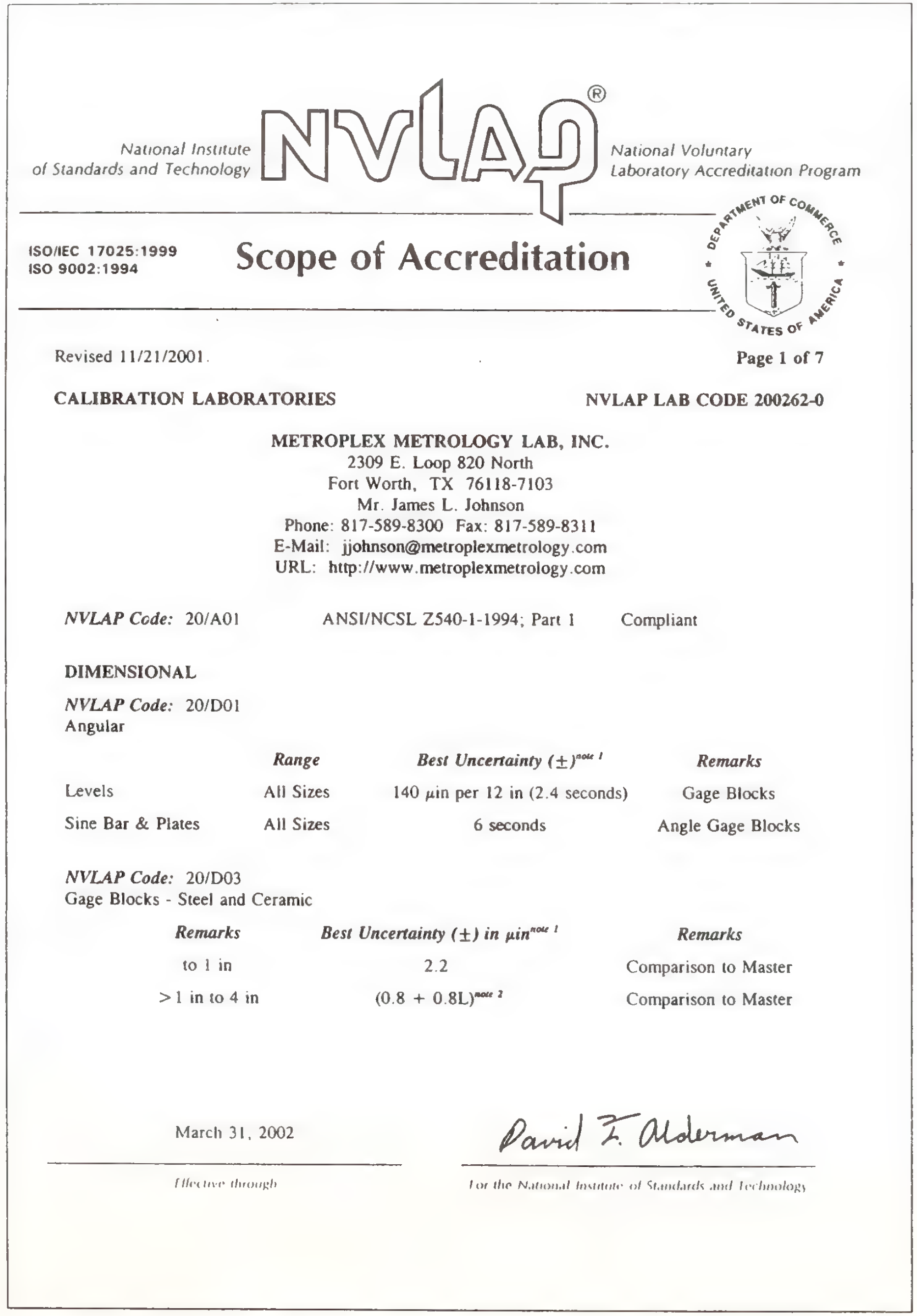

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CALIBRATION LABORATORIES **NVLAP LAB CODE 200262-0**

METROPLEX METROLOGY LAB, INC.
2309 E. Loop 820 North
Fort Worth, TX 76118-7103
Mr. James L. Johnson
Phone: 817-589-8300 Fax: 817-589-8311
E-Mail: jjohnson@metroplexmetrology.com
URL: http://www.metroplexmetrology.com

NVLAP Code: 20/A01 ANSI/NCSL Z540-1-1994; Part 1 Compliant

DIMENSIONAL

NVLAP Code: 20/D01
Angular

	Range	*Best Uncertainty* $(\pm)^{\text{note 1}}$	*Remarks*
Levels	All Sizes	140 μin per 12 in (2.4 seconds)	Gage Blocks
Sine Bar & Plates	All Sizes	6 seconds	Angle Gage Blocks

NVLAP Code: 20/D03
Gage Blocks - Steel and Ceramic

Remarks	*Best Uncertainty* (±) *in* μin$^{\text{note 1}}$	*Remarks*
to 1 in	2.2	Comparison to Master
>1 in to 4 in	$(0.8 + 0.8L)^{\text{note 2}}$	Comparison to Master

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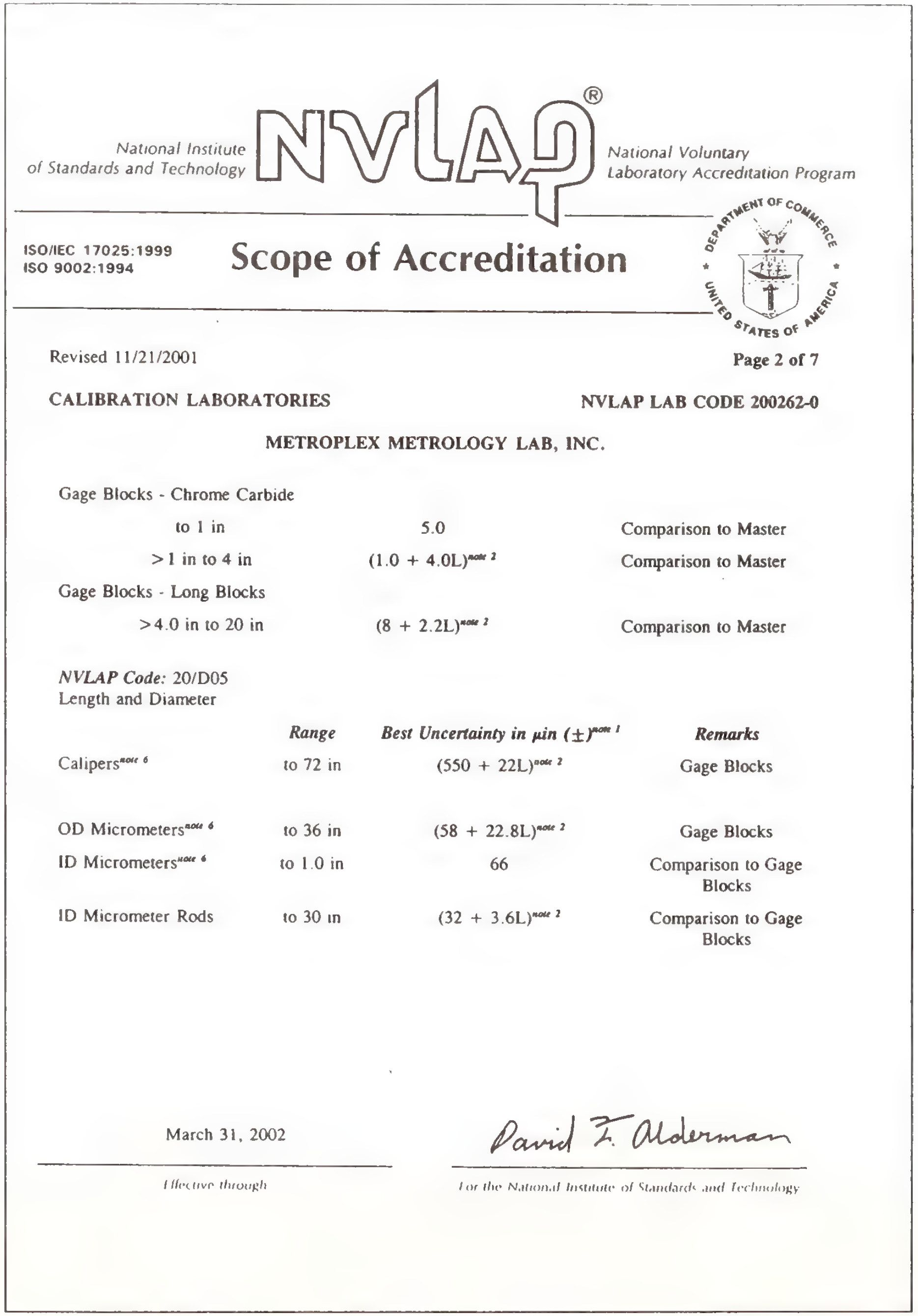

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CALIBRATION LABORATORIES **NVLAP LAB CODE 200262-0**

METROPLEX METROLOGY LAB, INC.

Gage Blocks - Chrome Carbide		
to 1 in	5.0	Comparison to Master
>1 in to 4 in	$(1.0 + 4.0L)^{\text{note 2}}$	Comparison to Master
Gage Blocks - Long Blocks		
>4.0 in to 20 in	$(8 + 2.2L)^{\text{note 2}}$	Comparison to Master

NVLAP Code: 20/D05
Length and Diameter

	Range	*Best Uncertainty in* μin $(\pm)^{\text{note 1}}$	*Remarks*
Calipers$^{\text{note 6}}$	to 72 in	$(550 + 22L)^{\text{note 2}}$	Gage Blocks
OD Micrometers$^{\text{note 6}}$	to 36 in	$(58 + 22.8L)^{\text{note 2}}$	Gage Blocks
ID Micrometers$^{\text{note 6}}$	to 1.0 in	66	Comparison to Gage Blocks
ID Micrometer Rods	to 30 in	$(32 + 3.6L)^{\text{note 2}}$	Comparison to Gage Blocks

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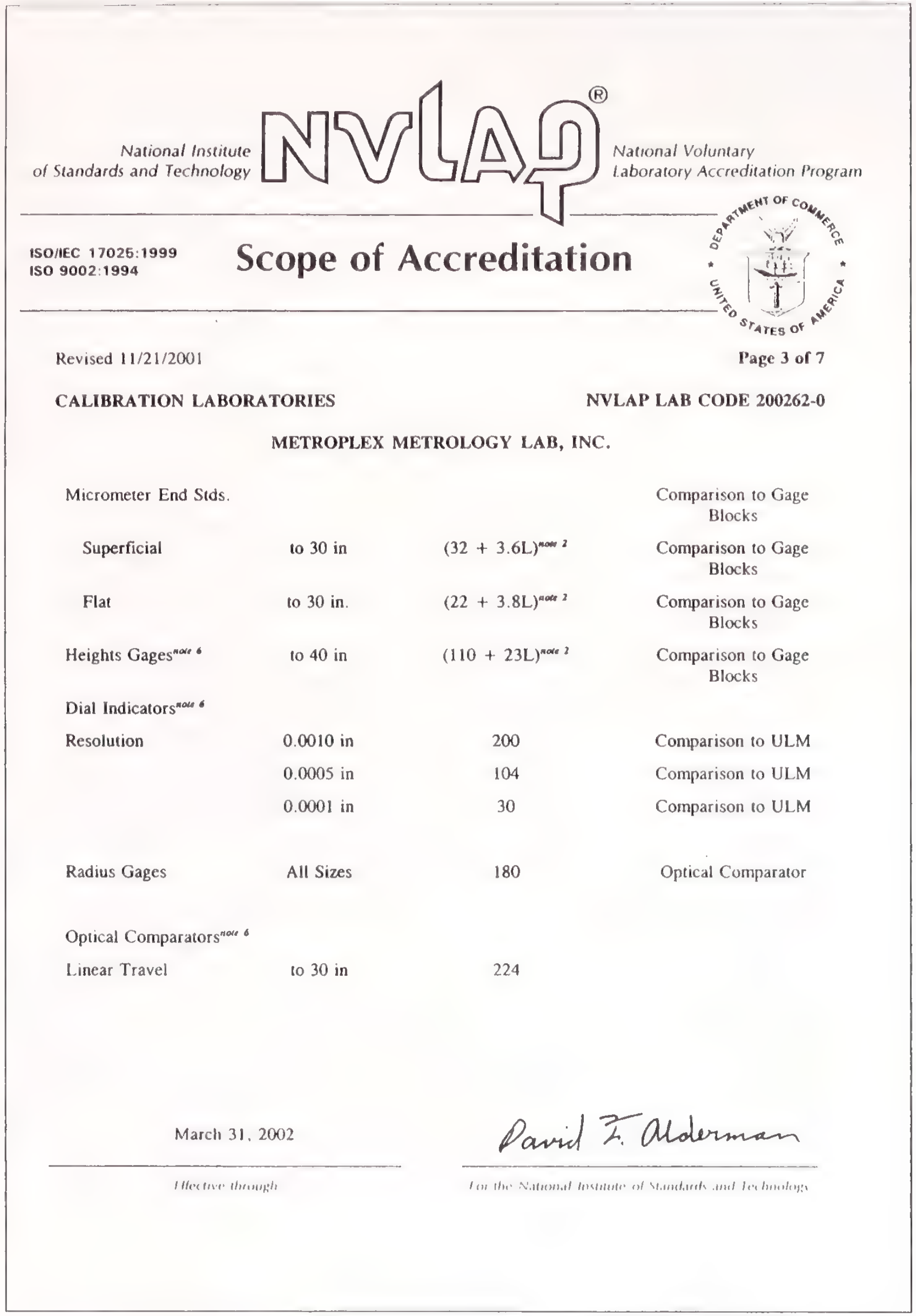

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METROPLEX METROLOGY LAB, INC.

Micrometer End Stds.			Comparison to Gage Blocks
Superficial	to 30 in	(32 + 3.6L)$^{\text{note 2}}$	Comparison to Gage Blocks
Flat	to 30 in.	(22 + 3.8L)$^{\text{note 2}}$	Comparison to Gage Blocks
Heights Gages$^{\text{note 6}}$	to 40 in	(110 + 23L)$^{\text{note 2}}$	Comparison to Gage Blocks
Dial Indicators$^{\text{note 6}}$			
Resolution	0.0010 in	200	Comparison to ULM
	0.0005 in	104	Comparison to ULM
	0.0001 in	30	Comparison to ULM
Radius Gages	All Sizes	180	Optical Comparator
Optical Comparators$^{\text{note 6}}$			
Linear Travel	to 30 in	224	

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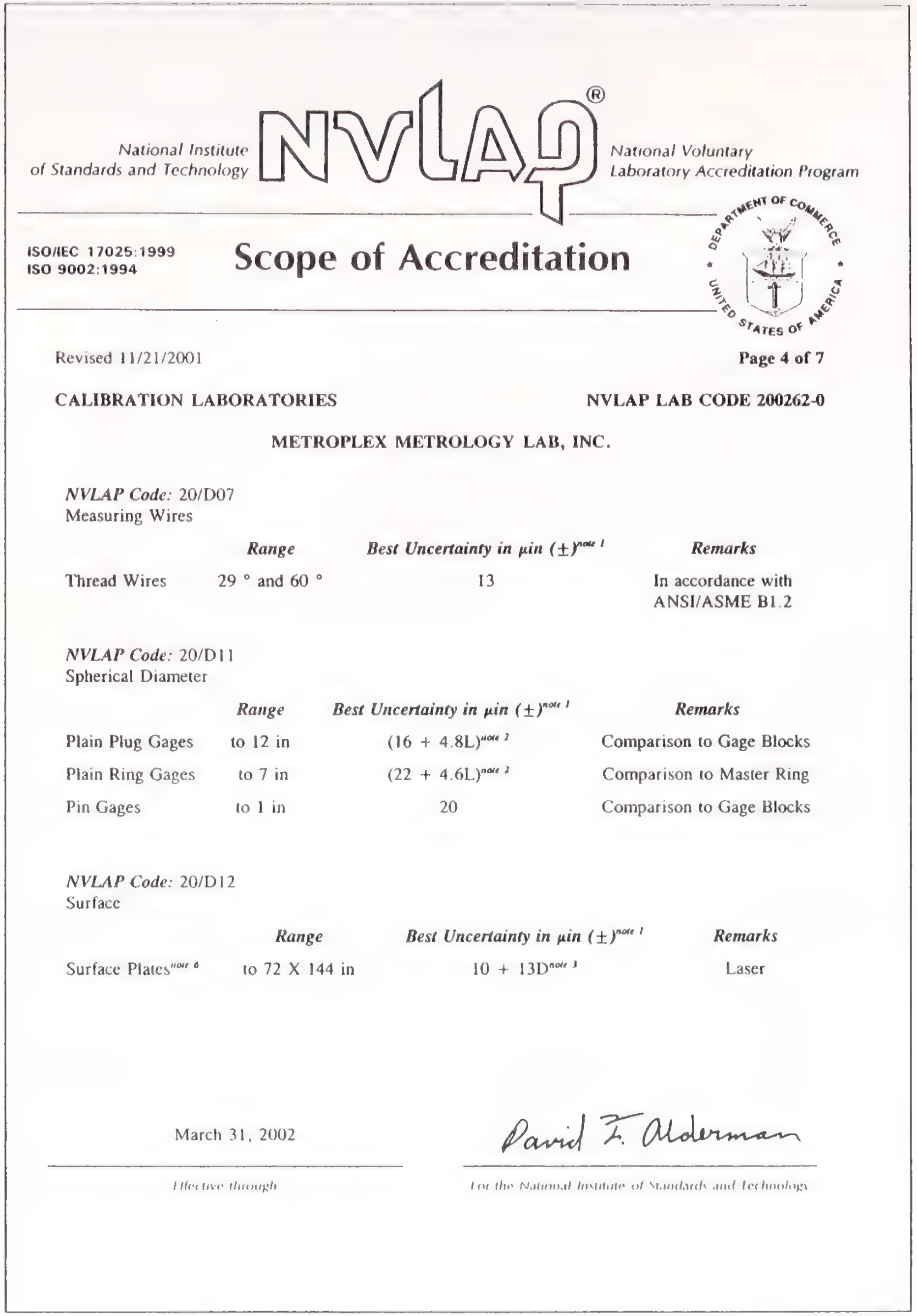

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CALIBRATION LABORATORIES

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METROPLEX METROLOGY LAB, INC.

NVLAP Code: 20/D07
Measuring Wires

	Range	*Best Uncertainty in µin (±)$^{\text{note 1}}$*	*Remarks*
Thread Wires	29 ° and 60 °	13	In accordance with ANSI/ASME B1.2

NVLAP Code: 20/D11
Spherical Diameter

	Range	*Best Uncertainty in µin (±)$^{\text{note 1}}$*	*Remarks*
Plain Plug Gages	to 12 in	(16 + 4.8L)$^{\text{note 2}}$	Comparison to Gage Blocks
Plain Ring Gages	to 7 in	(22 + 4.6L)$^{\text{note 2}}$	Comparison to Master Ring
Pin Gages	to 1 in	20	Comparison to Gage Blocks

NVLAP Code: 20/D12
Surface

	Range	*Best Uncertainty in µin (±)$^{\text{note 1}}$*	*Remarks*
Surface Plates$^{\text{note 6}}$	to 72 X 144 in	10 + 13D$^{\text{note 3}}$	Laser

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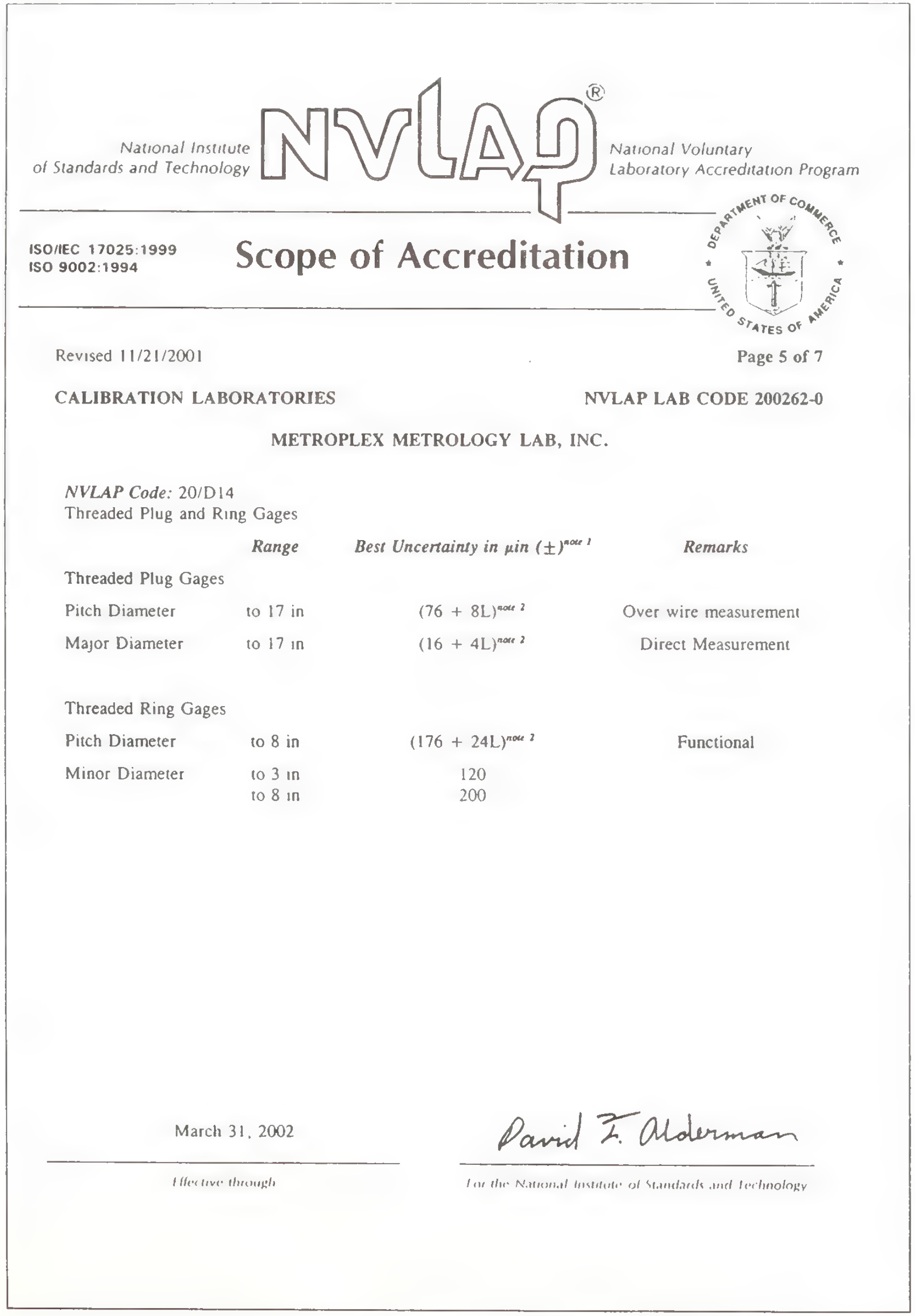

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CALIBRATION LABORATORIES **NVLAP LAB CODE 200262-0**

METROPLEX METROLOGY LAB, INC.

NVLAP Code: 20/D14
Threaded Plug and Ring Gages

	Range	*Best Uncertainty in μin* $(\pm)^{\text{note 1}}$	*Remarks*
Threaded Plug Gages			
Pitch Diameter	to 17 in	$(76 + 8L)^{\text{note 2}}$	Over wire measurement
Major Diameter	to 17 in	$(16 + 4L)^{\text{note 2}}$	Direct Measurement
Threaded Ring Gages			
Pitch Diameter	to 8 in	$(176 + 24L)^{\text{note 2}}$	Functional
Minor Diameter	to 3 in	120	
	to 8 in	200	

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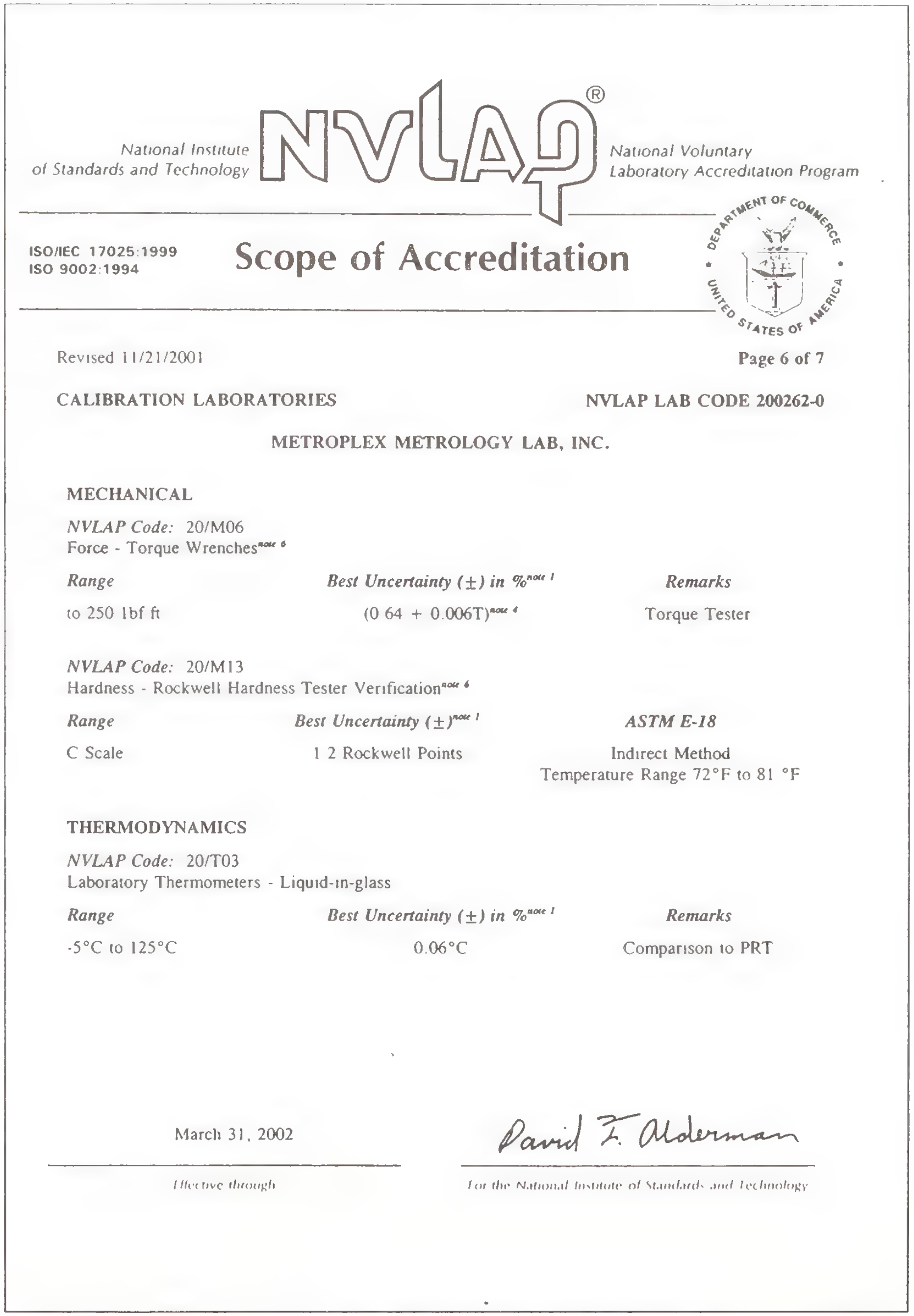

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CALIBRATION LABORATORIES **NVLAP LAB CODE 200262-0**

METROPLEX METROLOGY LAB, INC.

MECHANICAL

NVLAP Code: 20/M06
Force - Torque Wrenches$^{\text{note 6}}$

Range	*Best Uncertainty* $(\pm)$ *in* $\%^{\text{note 1}}$	*Remarks*
to 250 lbf ft	$(0.64 + 0.006T)^{\text{note 4}}$	Torque Tester

NVLAP Code: 20/M13
Hardness - Rockwell Hardness Tester Verification$^{\text{note 6}}$

Range	*Best Uncertainty* $(\pm)^{\text{note 1}}$	*ASTM E-18*
C Scale	1.2 Rockwell Points	Indirect Method Temperature Range 72°F to 81 °F

THERMODYNAMICS

NVLAP Code: 20/T03
Laboratory Thermometers - Liquid-in-glass

Range	*Best Uncertainty* $(\pm)$ *in* $\%^{\text{note 1}}$	*Remarks*
-5°C to 125°C	0.06°C	Comparison to PRT

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METROPLEX METROLOGY LAB, INC.

NVLAP Code: 20/T05
Pressure Gages$^{\text{note 6}}$

Range	*Best Uncertainty (±) in %*$^{\text{note 1}}$	*Remarks*
0 to 150 PSI	(0.024 + 0.0008P) PSI$^{\text{note 5}}$	Comparison to Master
>150 thru 5000 PSI	(4 + 0.003P) PSI$^{\text{note 5}}$	Comparison to Master
>5000 thru 30000 PSI	(24 + 0.0014P) PSI$^{\text{note 5}}$	Comparison to Master

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1. Represents an expanded uncertainty using a coverage factor, k=2.
2. L=Length in inches
3. D=Diagonal Length in feet
4. T= Torque in LBF. FT
5. P= Pressure in PSI
6. Items available for on-site service. Based on environmental variances uncertainties will generally be greater than those listed in this scope.

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CALIBRATION LABORATORIES | **NVLAP LAB CODE 200301-0**

INSTRON FIELD CALIBRATION LABORATORY
100 Royall Street
Canton, MA 02021
Dr. Anatoly Perlov
Phone: 781-575-5479 Fax: 781-575-5767
E-Mail: anatoly_perlov@instron.com
URL: http://www.instron.com

DIMENSIONAL

NVLAP Code: 20/D05
Length

Range	*Best Uncertainty (±)*$^{\text{note 2}}$	*Remarks*
Field Service Calibration of Strain:		
0.5 in (12.5 mm) to 4.0 in (100 mm)	0.5% of measured value but not less than 50 μin	Gage Length
>0 to 10 in (254 mm)	0.5% of measured value but not less than 50 μin	Displacement

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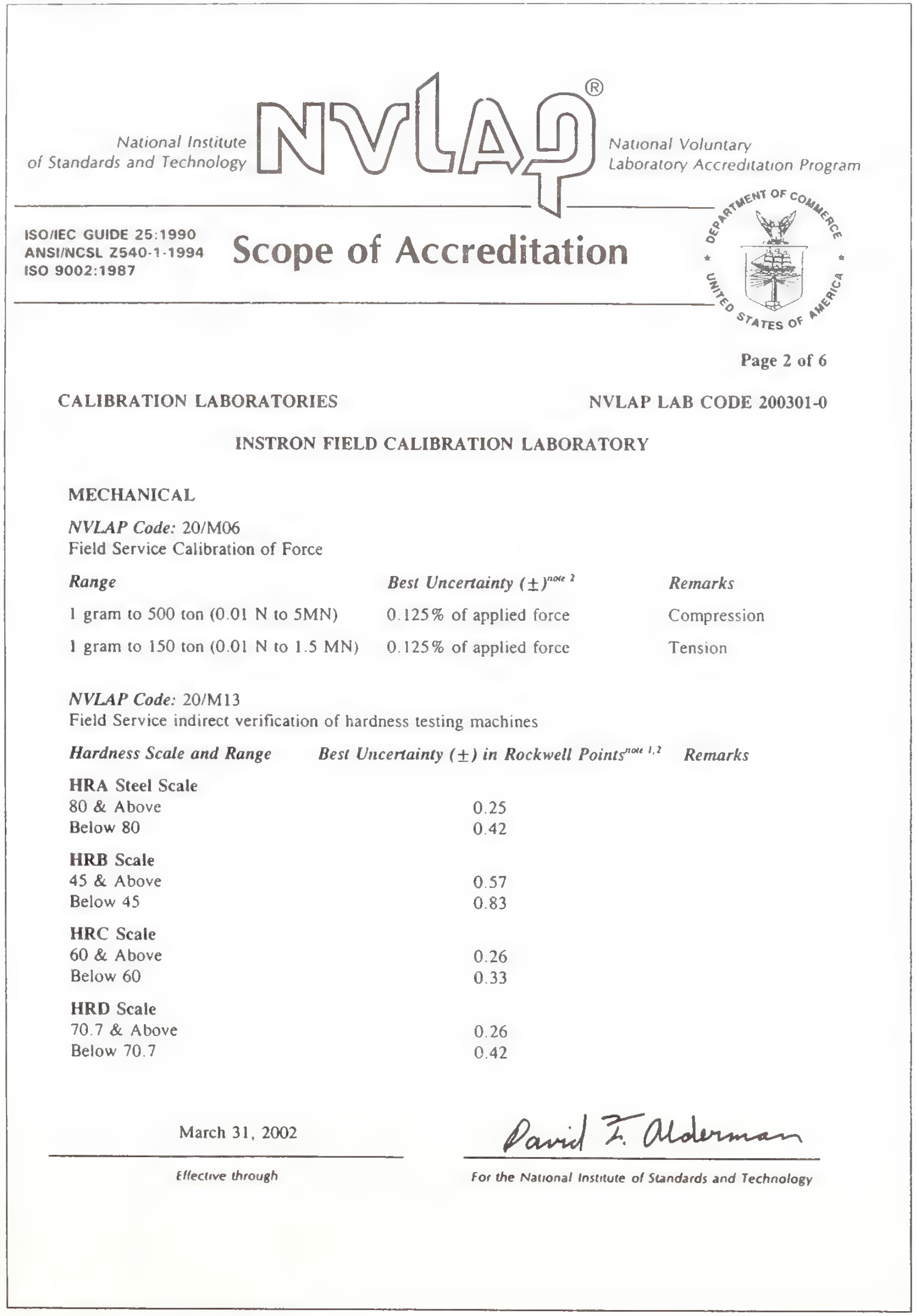

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INSTRON FIELD CALIBRATION LABORATORY

MECHANICAL

NVLAP Code: 20/M06
Field Service Calibration of Force

Range	*Best Uncertainty* (±)$^{note\ 2}$	*Remarks*
1 gram to 500 ton (0.01 N to 5MN)	0.125% of applied force	Compression
1 gram to 150 ton (0.01 N to 1.5 MN)	0.125% of applied force	Tension

NVLAP Code: 20/M13
Field Service indirect verification of hardness testing machines

Hardness Scale and Range	*Best Uncertainty* (±) *in Rockwell Points*$^{note\ 1,2}$	*Remarks*
HRA Steel Scale		
80 & Above	0.25	
Below 80	0.42	
HRB Scale		
45 & Above	0.57	
Below 45	0.83	
HRC Scale		
60 & Above	0.26	
Below 60	0.33	
HRD Scale		
70.7 & Above	0.26	
Below 70.7	0.42	

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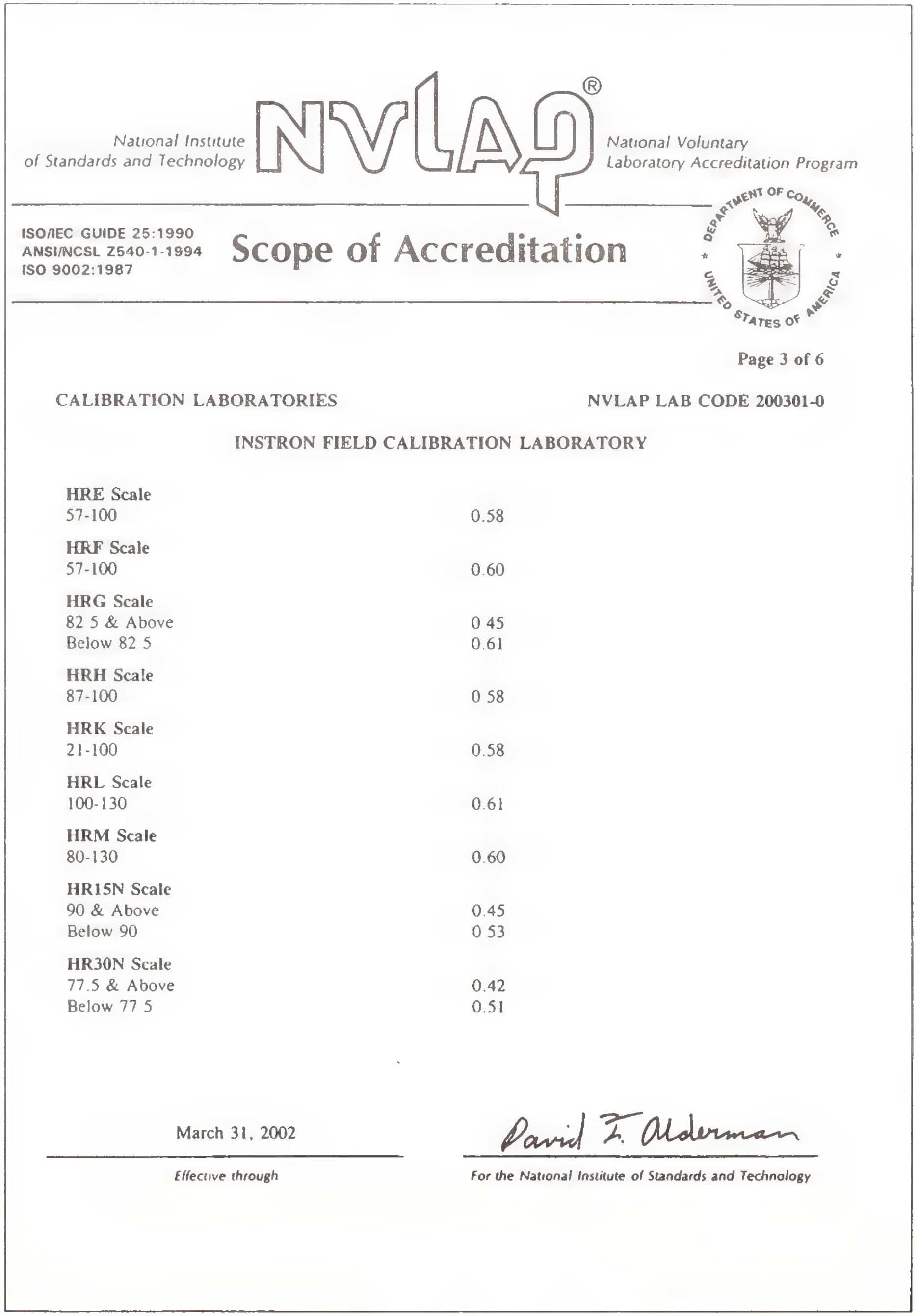

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INSTRON FIELD CALIBRATION LABORATORY

HRE Scale	
57-100	0.58
HRF Scale	
57-100	0.60
HRG Scale	
82 5 & Above	0 45
Below 82 5	0.61
HRH Scale	
87-100	0 58
HRK Scale	
21-100	0.58
HRL Scale	
100-130	0.61
HRM Scale	
80-130	0.60
HR15N Scale	
90 & Above	0.45
Below 90	0 53
HR30N Scale	
77.5 & Above	0.42
Below 77 5	0.51

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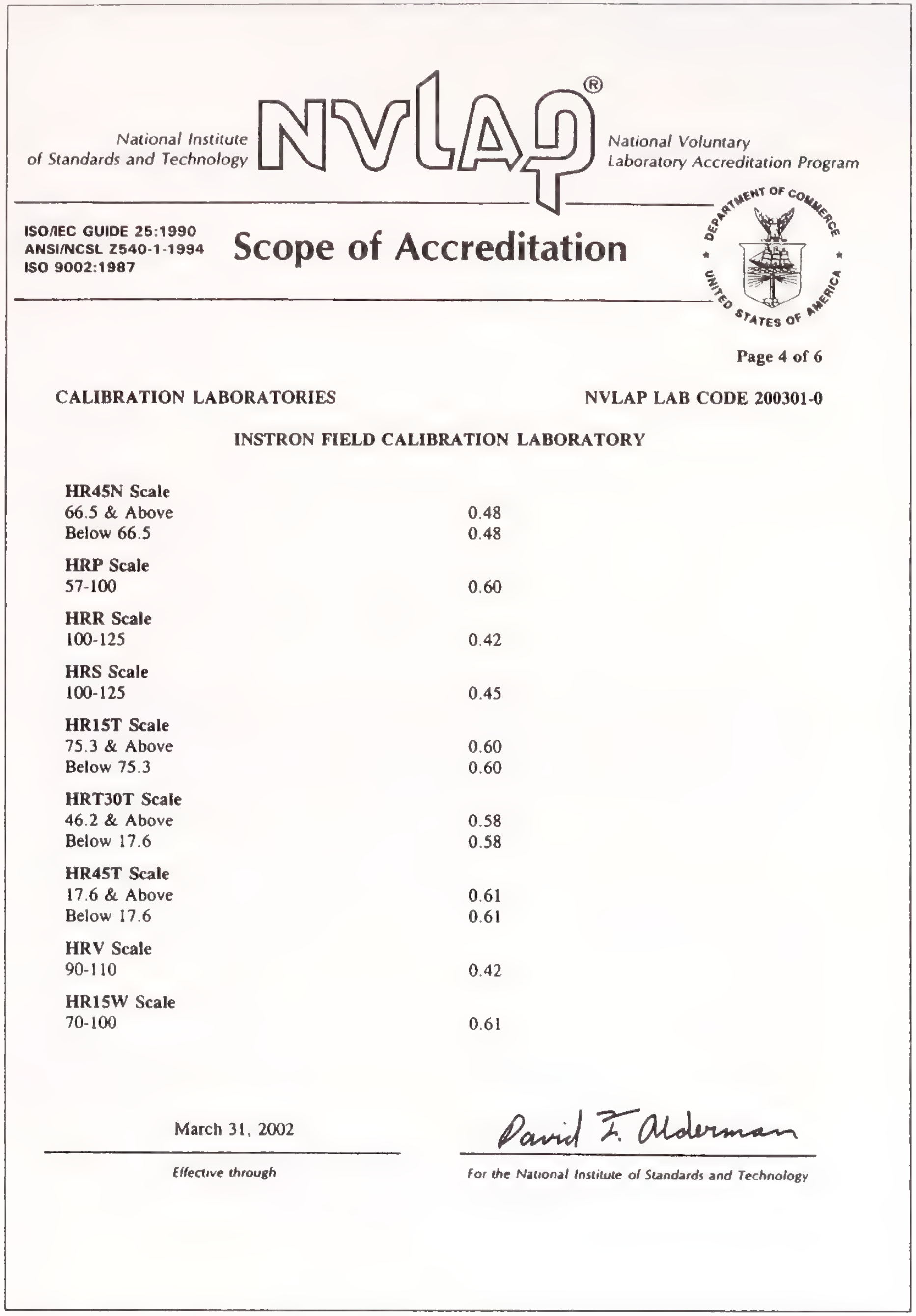

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INSTRON FIELD CALIBRATION LABORATORY

HR45N Scale	
66.5 & Above	0.48
Below 66.5	0.48
HRP Scale	
57-100	0.60
HRR Scale	
100-125	0.42
HRS Scale	
100-125	0.45
HR15T Scale	
75.3 & Above	0.60
Below 75.3	0.60
HRT30T Scale	
46.2 & Above	0.58
Below 17.6	0.58
HR45T Scale	
17.6 & Above	0.61
Below 17.6	0.61
HRV Scale	
90-110	0.42
HR15W Scale	
70-100	0.61

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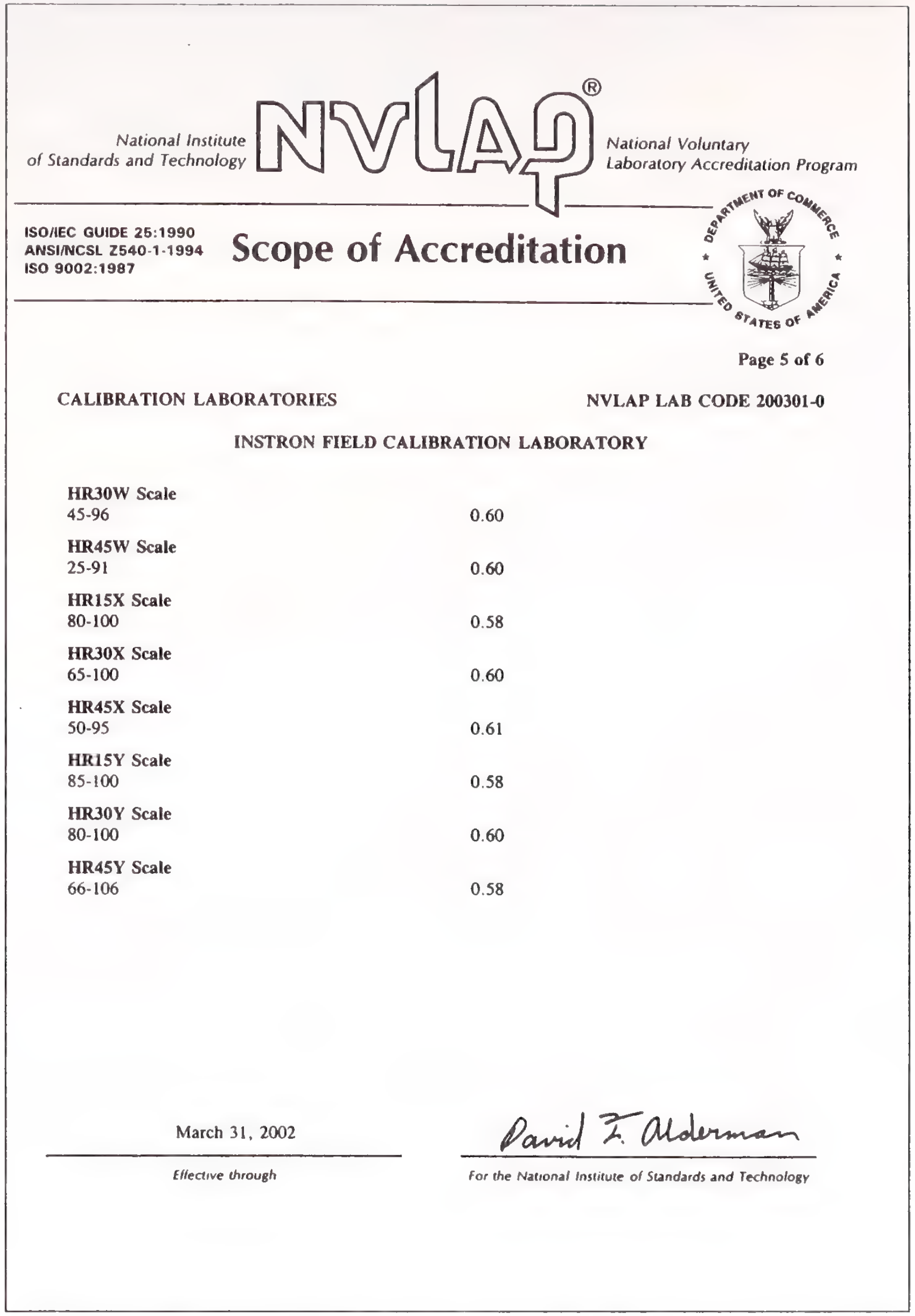

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CALIBRATION LABORATORIES — NVLAP LAB CODE 200301-0

INSTRON FIELD CALIBRATION LABORATORY

HR30W Scale	
45-96	0.60
HR45W Scale	
25-91	0.60
HR15X Scale	
80-100	0.58
HR30X Scale	
65-100	0.60
HR45X Scale	
50-95	0.61
HR15Y Scale	
85-100	0.58
HR30Y Scale	
80-100	0.60
HR45Y Scale	
66-106	0.58

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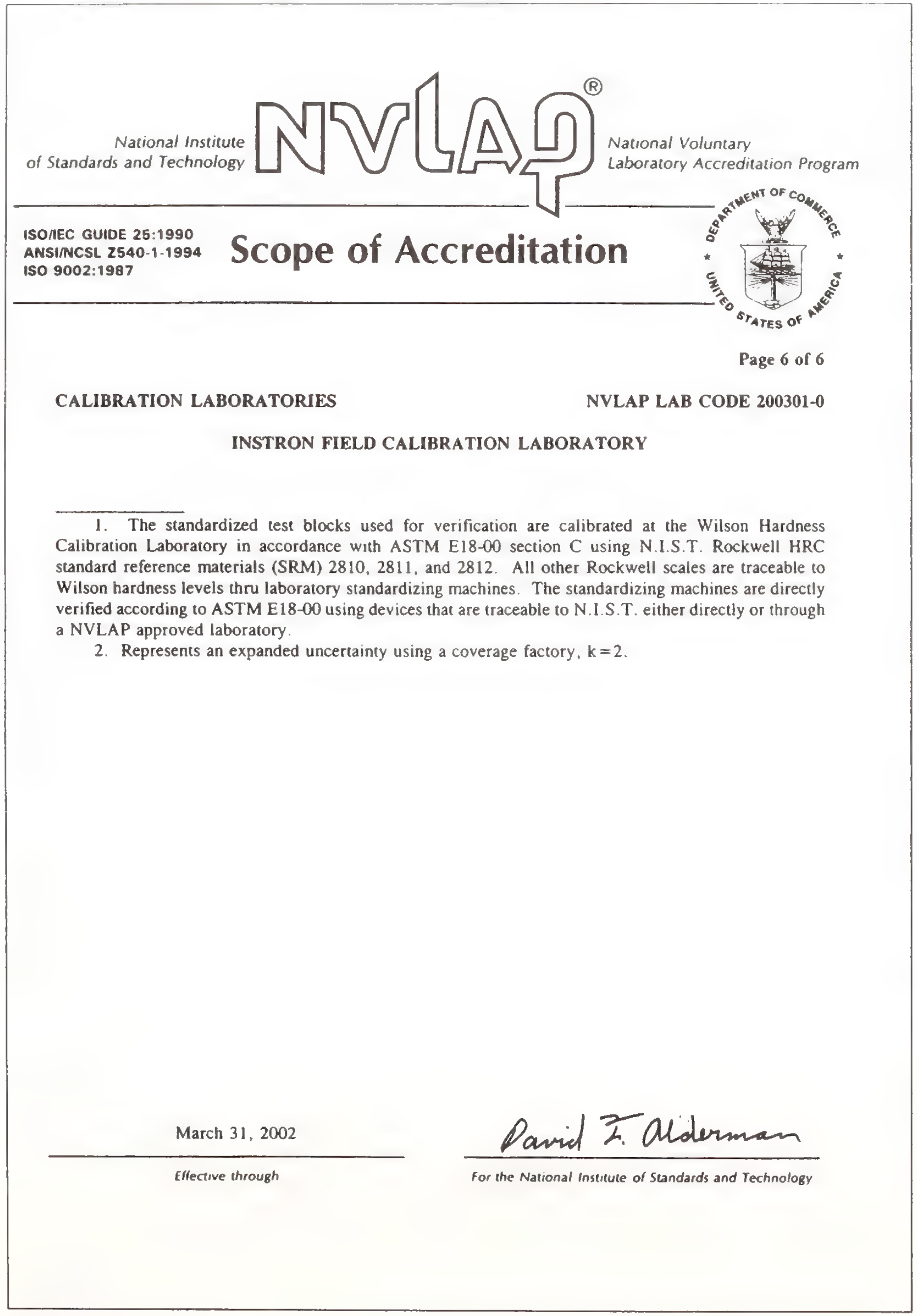

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CALIBRATION LABORATORIES **NVLAP LAB CODE 200301-0**

INSTRON FIELD CALIBRATION LABORATORY

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1. The standardized test blocks used for verification are calibrated at the Wilson Hardness Calibration Laboratory in accordance with ASTM E18-00 section C using N.I.S.T. Rockwell HRC standard reference materials (SRM) 2810, 2811, and 2812. All other Rockwell scales are traceable to Wilson hardness levels thru laboratory standardizing machines. The standardizing machines are directly verified according to ASTM E18-00 using devices that are traceable to N.I.S.T. either directly or through a NVLAP approved laboratory.

2. Represents an expanded uncertainty using a coverage factory, k=2.

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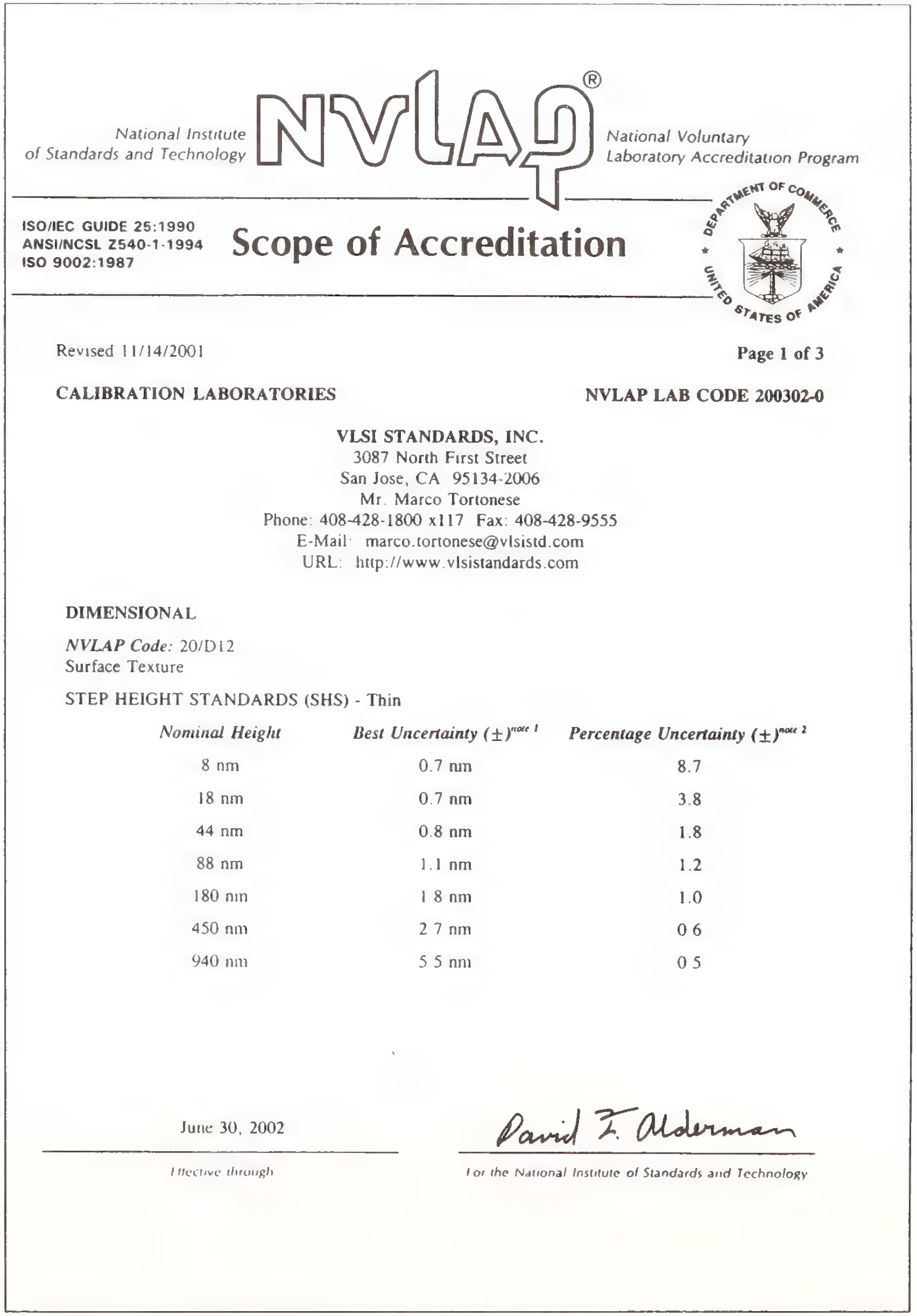

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CALIBRATION LABORATORIES **NVLAP LAB CODE 200302-0**

VLSI STANDARDS, INC.
3087 North First Street
San Jose, CA 95134-2006
Mr. Marco Tortonese
Phone: 408-428-1800 x117 Fax: 408-428-9555
E-Mail: marco.tortonese@vlsistd.com
URL: http://www.vlsistandards.com

DIMENSIONAL

NVLAP Code: 20/D12
Surface Texture

STEP HEIGHT STANDARDS (SHS) - Thin

Nominal Height	*Best Uncertainty* (±)$^{note\ 1}$	*Percentage Uncertainty* (±)$^{note\ 2}$
8 nm	0.7 nm	8.7
18 nm	0.7 nm	3.8
44 nm	0.8 nm	1.8
88 nm	1.1 nm	1.2
180 nm	1 8 nm	1.0
450 nm	2 7 nm	0 6
940 nm	5 5 nm	0 5

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CALIBRATION LABORATORIES **NVLAP LAB CODE 200302-0**

VLSI STANDARDS, INC.

STEP HEIGHT STANDARDS (SHS) - Thick

1.8 μm	0.01 μm	0.5
4.5 μm	0.04 μm	0.8
8.0 μm	0.08 μm	1.0
24 μm	0.14 μm	0.5
50 μm	0.26 μm	0.5

NVLAP Code: 20/D17
Film Thickness Standards (FTS)

FTS for SiO_2 films

Nominal Thickness	*Best Uncertainty* (±)$^{note\ 1}$	*Percentage Uncertainty* (±)$^{note\ 2}$
4.5 nm	0.2 nm	4.44
7.5 nm	0.2 nm	2.67
12 nm	0.2 nm	1.67
25 nm	0.2 nm	0.80
50 nm	0.2 nm	0.40
100 nm	0.4 nm	0.40
125 nm	0.4 nm	0.32

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VLSI STANDARDS, INC.

200 nm	0.5 nm	0.25
285 nm	0.5 nm	0.18
400 nm	0.5 nm	0.13
675 nm	0.6 nm	0.09
940 nm	0.6 nm	0.06
1010 nm	0.6 nm	0.06

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1. Represents an expanded uncertainty using a coverage factor, k=2.
2. Normalized to the nominal value.

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CALIBRATION LABORATORIES **NVLAP LAB CODE 200311-0**

UNITED TESTING SYS. CANADA, LTD. DYNAMIC TESTING SYS. INT. INC.
225 Bradwick Drive, #21
Concord Ontario L4K 1K7
CANADA
Mr. Arno M. Dickertmann
Phone: 905-669-5327 Fax: 905-738-5051
E-Mail: arno@utscanada.com

DIMENSIONAL

NVLAP Code: 20/D05
Length

Range	*Best Uncertainty (±)*[note 1]	*Remarks*
Extensometer Linear Calibrator		
0 to 25.4 mm (0 to 1.0 in)	0.33 μm	ASTM-E83
Extensometer Gage Length		
0 to 4.0 in	0.00137 in	ASTM-E83
0 to 12.0 in	0.00177 in	ASTM-E83
Crosshead Travel		
0 to 24.0 in	0.00206 in	Mitutoyo Digimatic

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CALIBRATION LABORATORIES **NVLAP LAB CODE 200311-0**

UNITED TESTING SYS. CANADA, LTD. DYNAMIC TESTING SYS. INT. INC.

Field Service Calibration or Extensometers

0 to 1 in	0.000034 in	ASTM E83

MECHANICAL

NVLAP Code: 20/M06
Force

Range in lbs	*Best Uncertainty (±)*[note 1]	*Remarks*
.1 to 300,000	0.05%	ASTM E74
.1 to 1,000,000	0.25%	ASTM E4

Field Service Calibration of:

Devices	*Range in lbs*	*Best Uncertainty (±)*[note 1]	*Remarks*
Tensile Testing Machines	to 1,000,000	0.25%	ASTM E4
Compression Testers	to 1,000,000	0.25%	ASTM E4

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[1] Represents an expanded uncertainty using a coverage factor, k = 2

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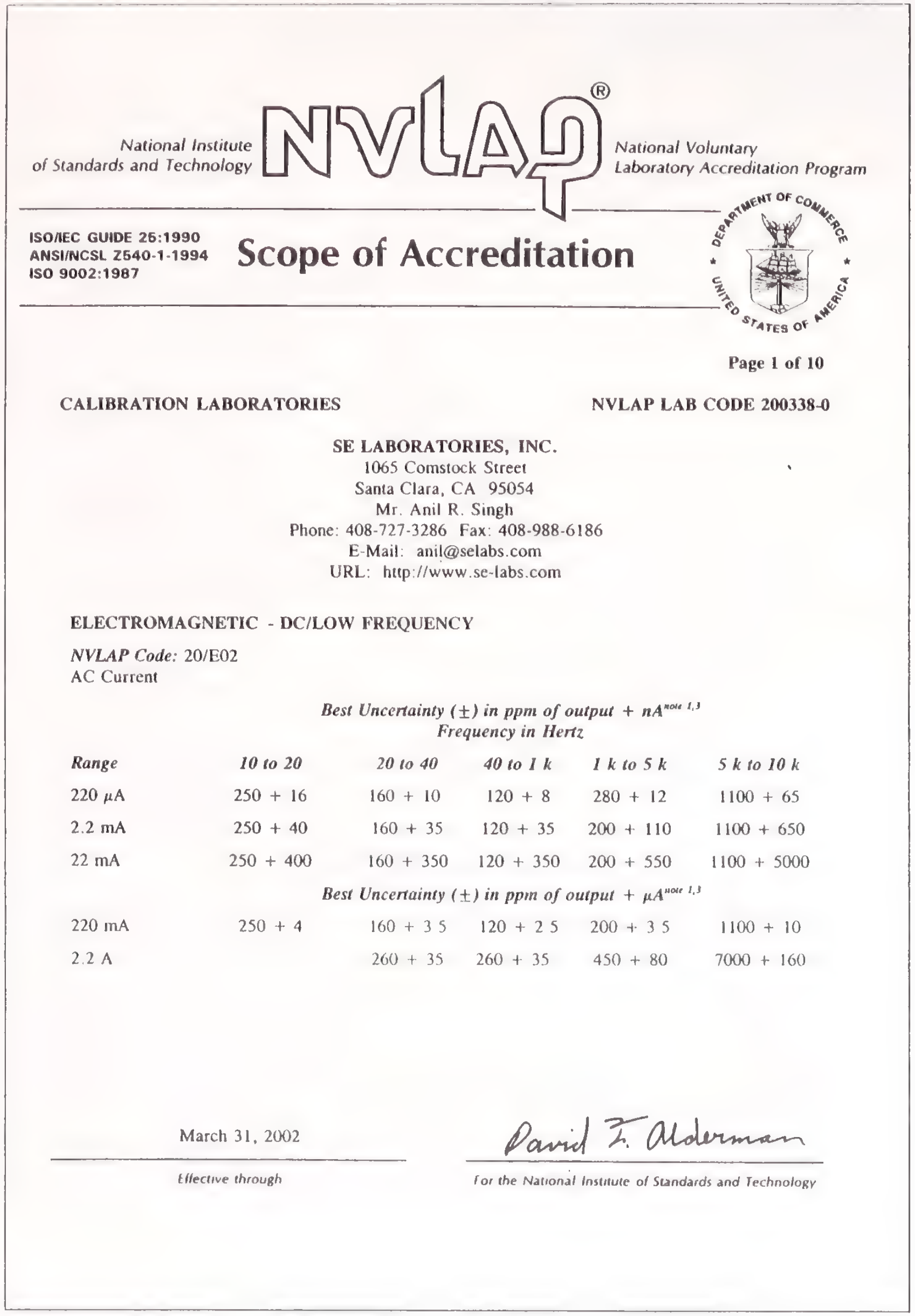

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CALIBRATION LABORATORIES

NVLAP LAB CODE 200338-0

SE LABORATORIES, INC.
1065 Comstock Street
Santa Clara, CA 95054
Mr. Anil R. Singh
Phone: 408-727-3286 Fax: 408-988-6186
E-Mail: anil@selabs.com
URL: http://www.se-labs.com

ELECTROMAGNETIC - DC/LOW FREQUENCY

NVLAP Code: 20/E02
AC Current

Best Uncertainty (±) in ppm of output + nA$^{\text{note 1,3}}$
Frequency in Hertz

Range	*10 to 20*	*20 to 40*	*40 to 1 k*	*1 k to 5 k*	*5 k to 10 k*
220 µA	250 + 16	160 + 10	120 + 8	280 + 12	1100 + 65
2.2 mA	250 + 40	160 + 35	120 + 35	200 + 110	1100 + 650
22 mA	250 + 400	160 + 350	120 + 350	200 + 550	1100 + 5000
		Best Uncertainty (±) in ppm of output + µA$^{\text{note 1,3}}$			
220 mA	250 + 4	160 + 3 5	120 + 2 5	200 + 3 5	1100 + 10
2.2 A		260 + 35	260 + 35	450 + 80	7000 + 160

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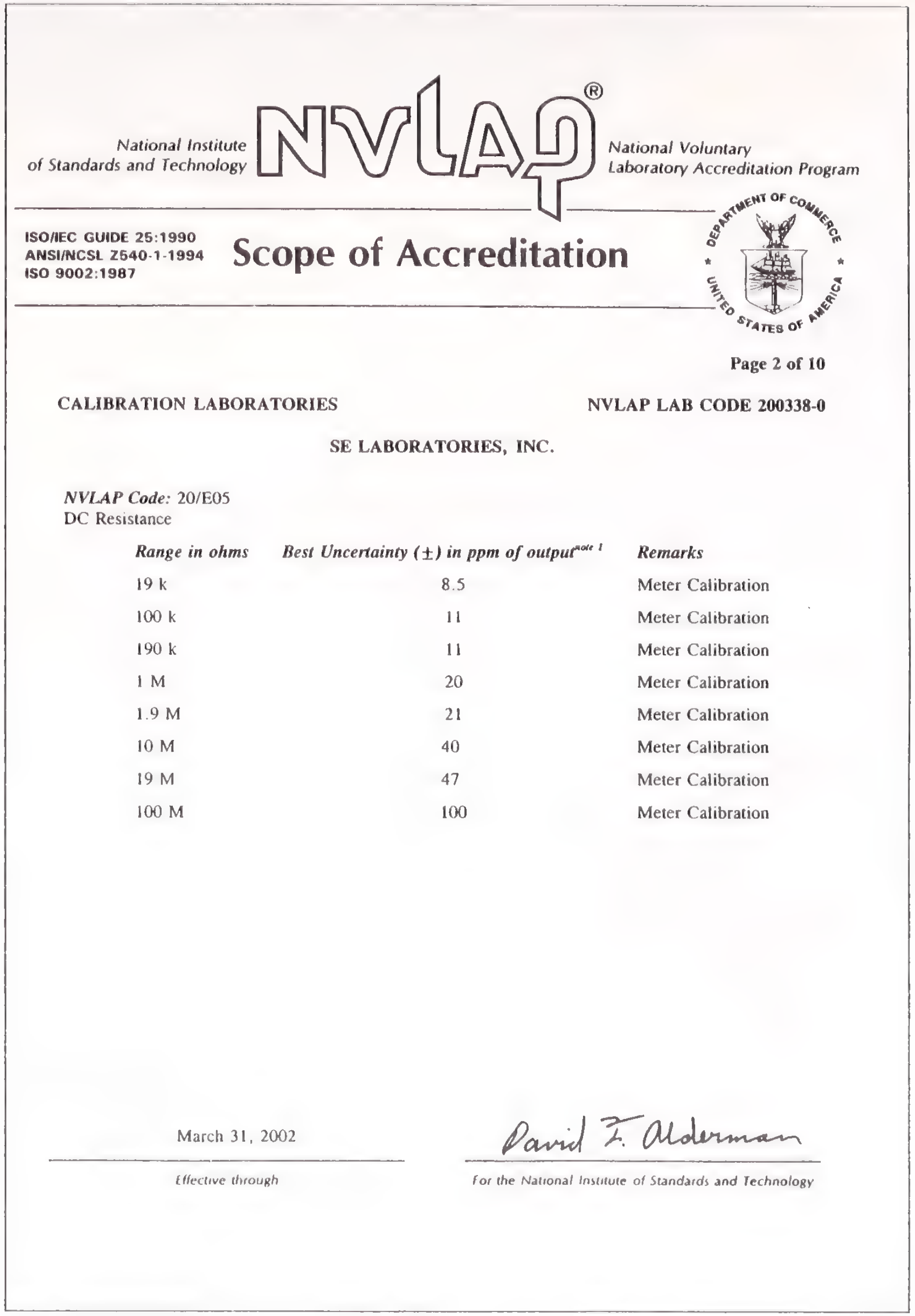

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CALIBRATION LABORATORIES

NVLAP LAB CODE 200338-0

SE LABORATORIES, INC.

NVLAP Code: 20/E05
DC Resistance

Range in ohms	*Best Uncertainty (±) in ppm of output*$^{\text{note 1}}$	*Remarks*
19 k	8.5	Meter Calibration
100 k	11	Meter Calibration
190 k	11	Meter Calibration
1 M	20	Meter Calibration
1.9 M	21	Meter Calibration
10 M	40	Meter Calibration
19 M	47	Meter Calibration
100 M	100	Meter Calibration

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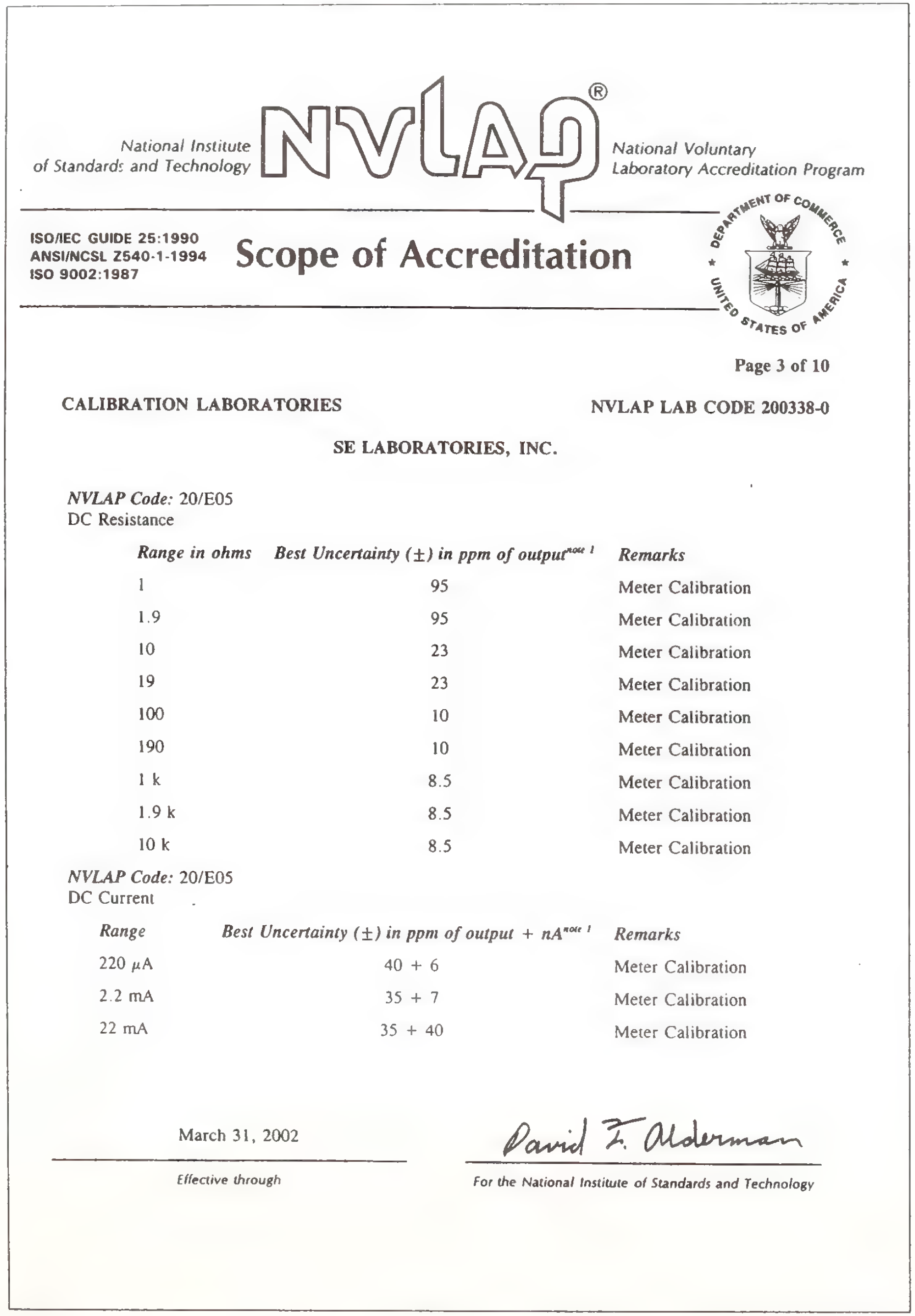

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CALIBRATION LABORATORIES — **NVLAP LAB CODE 200338-0**

SE LABORATORIES, INC.

NVLAP Code: 20/E05
DC Resistance

Range in ohms	*Best Uncertainty (±) in ppm of output*$^{note\ 1}$	*Remarks*
1	95	Meter Calibration
1.9	95	Meter Calibration
10	23	Meter Calibration
19	23	Meter Calibration
100	10	Meter Calibration
190	10	Meter Calibration
1 k	8.5	Meter Calibration
1.9 k	8.5	Meter Calibration
10 k	8.5	Meter Calibration

NVLAP Code: 20/E05
DC Current

Range	*Best Uncertainty (±) in ppm of output + nA*$^{note\ 1}$	*Remarks*
220 μA	40 + 6	Meter Calibration
2.2 mA	35 + 7	Meter Calibration
22 mA	35 + 40	Meter Calibration

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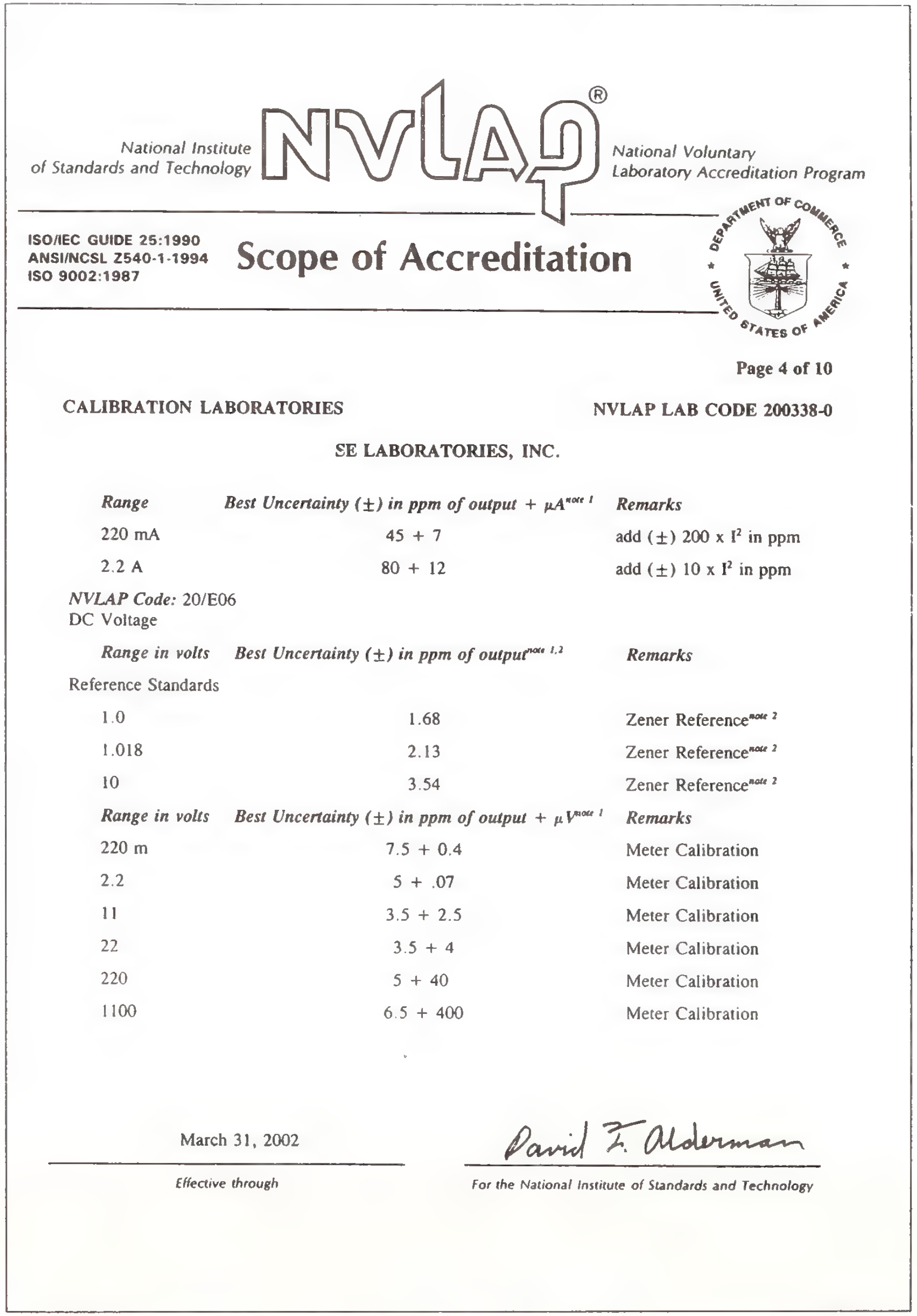

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Range	*Best Uncertainty (±) in ppm of output + μA*$^{note\ 1}$	*Remarks*
220 mA	45 + 7	add (±) 200 x I^2 in ppm
2.2 A	80 + 12	add (±) 10 x I^2 in ppm

NVLAP Code: 20/E06
DC Voltage

Range in volts	*Best Uncertainty (±) in ppm of output*$^{note\ 1,2}$	*Remarks*
Reference Standards		
1.0	1.68	Zener Reference$^{note\ 2}$
1.018	2.13	Zener Reference$^{note\ 2}$
10	3.54	Zener Reference$^{note\ 2}$

Range in volts	*Best Uncertainty (±) in ppm of output + μV*$^{note\ 1}$	*Remarks*
220 m	7.5 + 0.4	Meter Calibration
2.2	5 + .07	Meter Calibration
11	3.5 + 2.5	Meter Calibration
22	3.5 + 4	Meter Calibration
220	5 + 40	Meter Calibration
1100	6.5 + 400	Meter Calibration

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CALIBRATION LABORATORIES **NVLAP LAB CODE 200338-0**

SE LABORATORIES, INC.

NVLAP Code: 20/E09
LF AC Voltage

Best Uncertainty (±) in ppm of output + $\mu V^{note\ 1,3}$

Range in volts	*10 to 20*	*20 to 40*	*40 to 20 k*	*20 k to 50 k*	*50 k to 100 k*	*100 k to 300 k*	*300 k to 500 k*	*500 k to 1 MHz*
2.2 m	240 + 4	90 + 4	80 + 4	200 + 4	500 + 5	1050 + 10	1400 + 20	2700 + 20
22 m	240 + 4	90 + 4	80 + 4	200 + 4	500 + 5	1050 + 10	1400 + 20	2700 + 20
220 m	240 + 12	90 + 7	80 + 7	200 + 7	460 + 17	900 + 20	1400 + 25	2700 + 45
2.2	240 + 40	90 + 15	45 + 8	75 + 10	110 + 300	420 + 80	1000 + 200	1700 + 300
22	240 + 400	90 + 150	45 + 50	75 + 100	100 + 200	275 + 600	1000 + 2000	1500 + 3200

Best Uncertainty (±) in ppm of output + $mV^{note\ 1,3}$

220	240 + 4	90 + 1.5	52 + 0.6	80 + 1	150 + 2.5	900 + 16	4400 + 40	8000 + 80
1100	15 to 50 Hz$^{note\ 7}$		50 Hz to 1 kHz$^{note\ 4,\ 7}$					
	300 + 16		70 + 3.5$^{note\ 4}$					

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SE LABORATORIES, INC.

TIME AND FREQUENCY

NVLAP Code: 20/F01
Frequency Dissemination

Range in MHz	*Best Uncertainty (±)$^{note\ 1}$*	*Remarks*
0.1	4 parts in 10^{12}	Cesium Beam GPS
1	4 parts in 10^{12}	Cesium Beam GPS
5	4 parts in 10^{12}	Cesium Beam GPS
10	4 parts in 10^{12}	Cesium Beam GPS

NVLAP Code: 20/F03
Oscillator Characterization

Range in MHz	*Best Uncertainty (±)$^{note\ 1}$*	*Remarks*
0.1	4 parts in 10^{12}	Cesium Beam GPS
1	4 parts in 10^{12}	Cesium Beam GPS
5	4 parts in 10^{12}	Cesium Beam GPS
10	4 parts in 10^{12}	Cesium Beam GPS

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CALIBRATION LABORATORIES **NVLAP LAB CODE 200338-0**

SE LABORATORIES, INC.

ELECTROMAGNETIC - RF/MICROWAVE

NVLAP Code: 20/R08
Microwave Antenna Parameters

Range in MHz	*Best Uncertainty* (±)$^{note\ 1}$	*Remarks*
LISN's		
0.010 to 100	0.3 dB	Insertion Loss
0.010 to 100	3.4 % of reading	Impedance 4 to 65 Ohms
CDN's		
0.010 to 230	0.3 dB	Insertion Loss
0.010 to 230	3.4 % of reading	Impedance Nominal 150 Ohms

NVLAP Code: 20/R12
RF Microwave Bolometer Units

Power Level Range	*Best Uncertainty* (±)$^{note\ 1}$	*Frequency*$^{note\ 5}$
1 microwatt to 10 milliwatts	0.5 % of reading	0.01 to 0.04 GHz
	0.3 % of reading	0.05 to 1.0 GHz

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CALIBRATION LABORATORIES **NVLAP LAB CODE 200338-0**

SE LABORATORIES, INC.

NVLAP Code: 20/R13
RF Microwave Attenuators

Reflection Coefficient (or Scattering Parameters S_{ii})

HP8510 Vector Network Analyzer Uncertainties

1. Expanded Uncertainties on one or two port devices

			Frequency (MHz)				
Connector Type	*Quantity*	*Quantity Range*	*.01-45*	*45-2000*	*2000-8000*	*8000-18000*	*20000-26500*
N	S_{ii}	0-1	.0063- 0204	.0063- 0204	.0102-.0340	.0136-.0479	
APC-7	S_{ii}	0-1	.0114- 0261	.0114- 0261	0114-.0325	.0148-.0467	
APC-3.5	S_{ii}	0-1	.0054-.0174	0064- 0228	0056-.0149	.0088- 0182$^{note\ 8}$	.0090-.0185
N	Arg(S_{ii})	$0 < \lvert S_{ii} \rvert < 1$ -180 +180 deg	1.7-180	1.48-180	6.73-180	8.21-180	
APC-7	Arg(S_{ii})	$0 < \lvert S_{ii} \rvert < 1$ -180 +180 deg	1.4-180	2 08-180	6 93-180	8.41-180	
APC-3.5	Arg(S_{ii})	$0 < \lvert S_{ii} \rvert < 1$ -180 +180 deg	1 6-180	1 73-180	5 59-180	6.65-180$^{note\ 8}$	7.91-180

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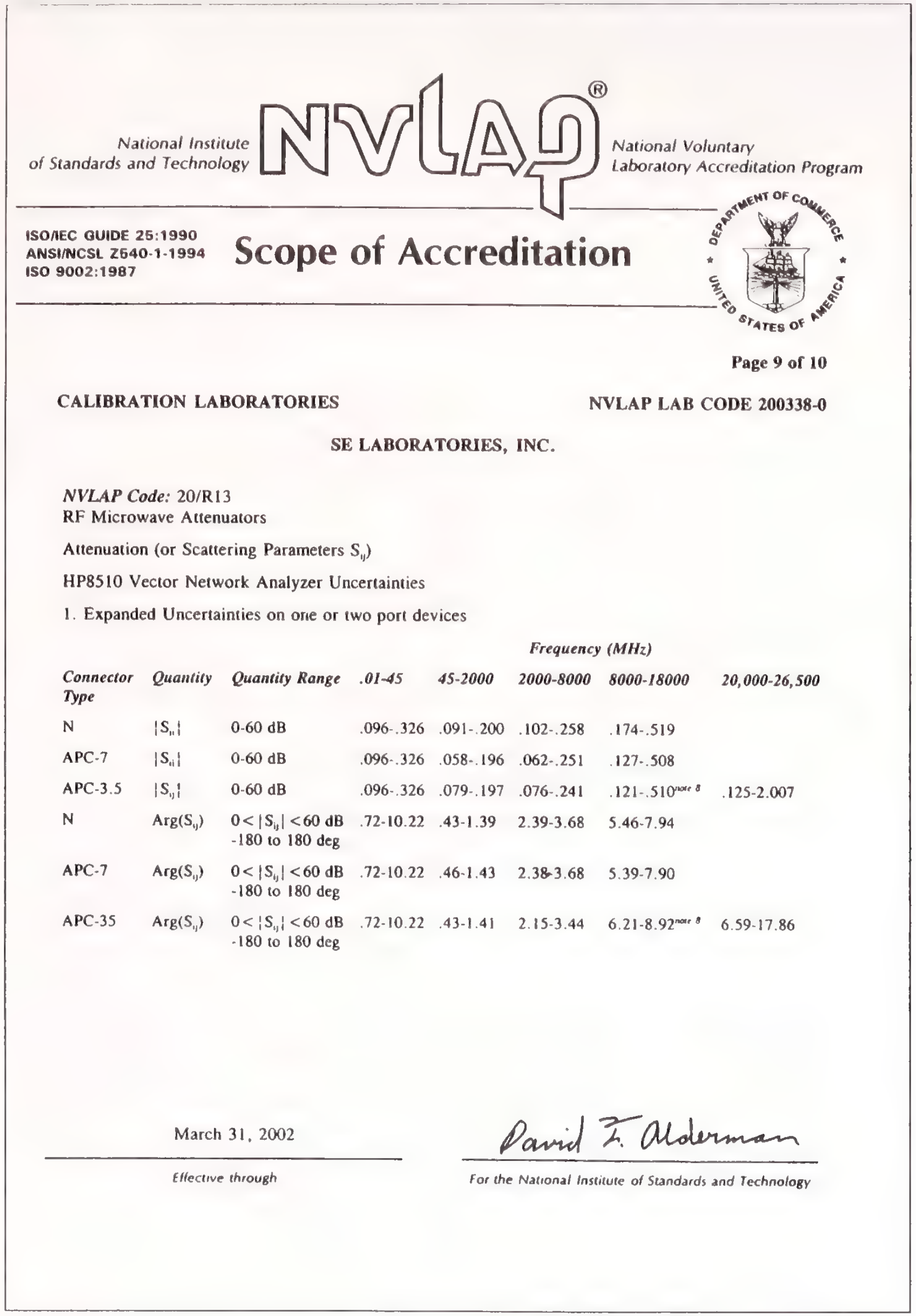

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CALIBRATION LABORATORIES **NVLAP LAB CODE 200338-0**

SE LABORATORIES, INC.

NVLAP Code: 20/R13
RF Microwave Attenuators

Attenuation (or Scattering Parameters S_{ij})

HP8510 Vector Network Analyzer Uncertainties

1. Expanded Uncertainties on one or two port devices

			Frequency (MHz)				
Connector Type	*Quantity*	*Quantity Range*	*.01-45*	*45-2000*	*2000-8000*	*8000-18000*	*20,000-26,500*
N	$\vert S_{ii}\vert$	0-60 dB	.096-.326	.091-.200	.102-.258	.174-.519	
APC-7	$\vert S_{ii}\vert$	0-60 dB	.096-.326	.058-.196	.062-.251	.127-.508	
APC-3.5	$\vert S_{ij}\vert$	0-60 dB	.096-.326	.079-.197	.076-.241	.121-.510$^{\text{note 8}}$	.125-2.007
N	Arg(S_{ij})	$0<\vert S_{ij}\vert<60$ dB -180 to 180 deg	.72-10.22	.43-1.39	2.39-3.68	5.46-7.94	
APC-7	Arg(S_{ij})	$0<\vert S_{ij}\vert<60$ dB -180 to 180 deg	.72-10.22	.46-1.43	2.38-3.68	5.39-7.90	
APC-35	Arg(S_{ij})	$0<\vert S_{ij}\vert<60$ dB -180 to 180 deg	.72-10.22	.43-1.41	2.15-3.44	6.21-8.92$^{\text{note 8}}$	6.59-17.86

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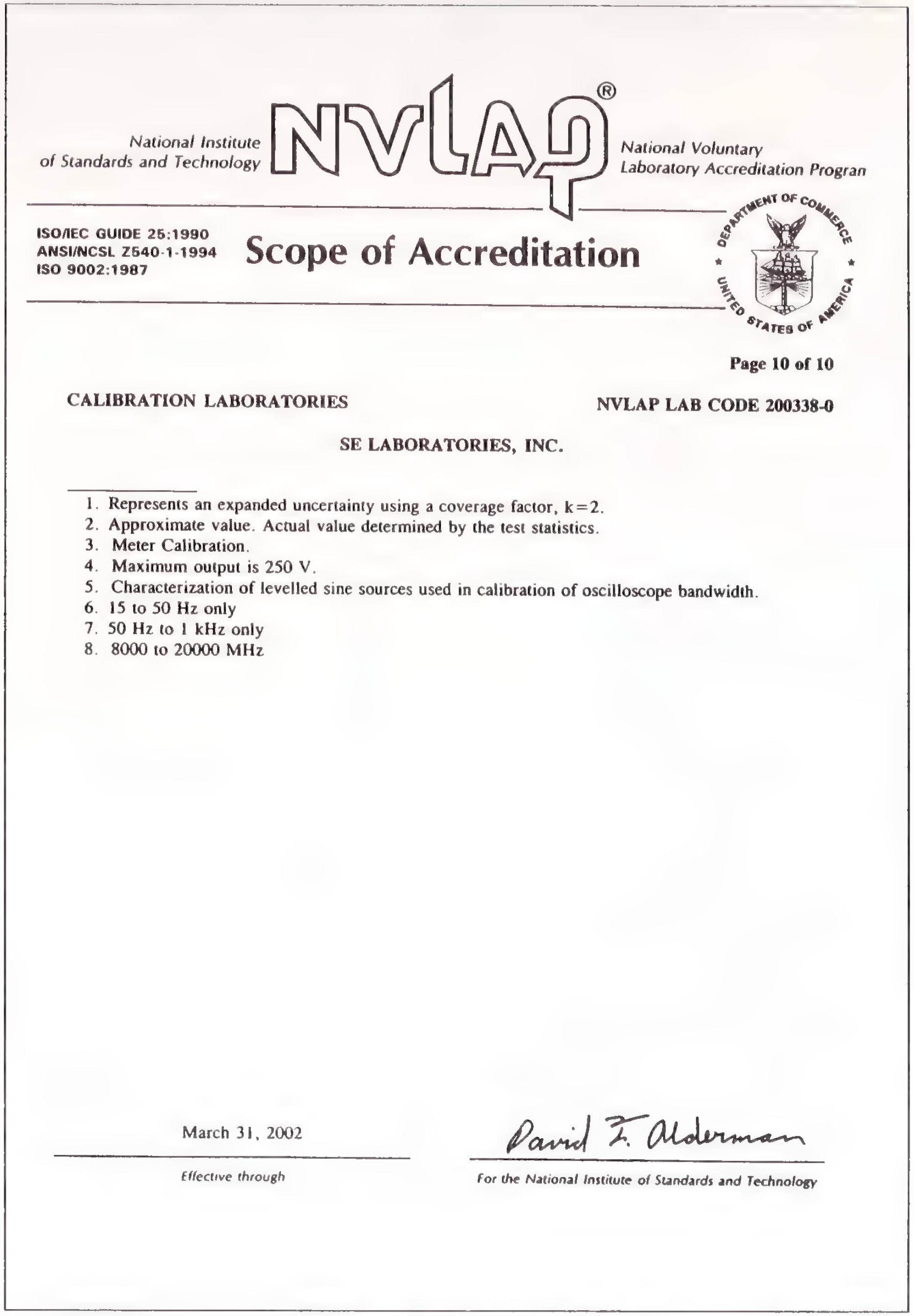

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CALIBRATION LABORATORIES **NVLAP LAB CODE 200338-0**

SE LABORATORIES, INC.

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1. Represents an expanded uncertainty using a coverage factor, k=2.
2. Approximate value. Actual value determined by the test statistics.
3. Meter Calibration.
4. Maximum output is 250 V.
5. Characterization of levelled sine sources used in calibration of oscilloscope bandwidth.
6. 15 to 50 Hz only
7. 50 Hz to 1 kHz only
8. 8000 to 20000 MHz

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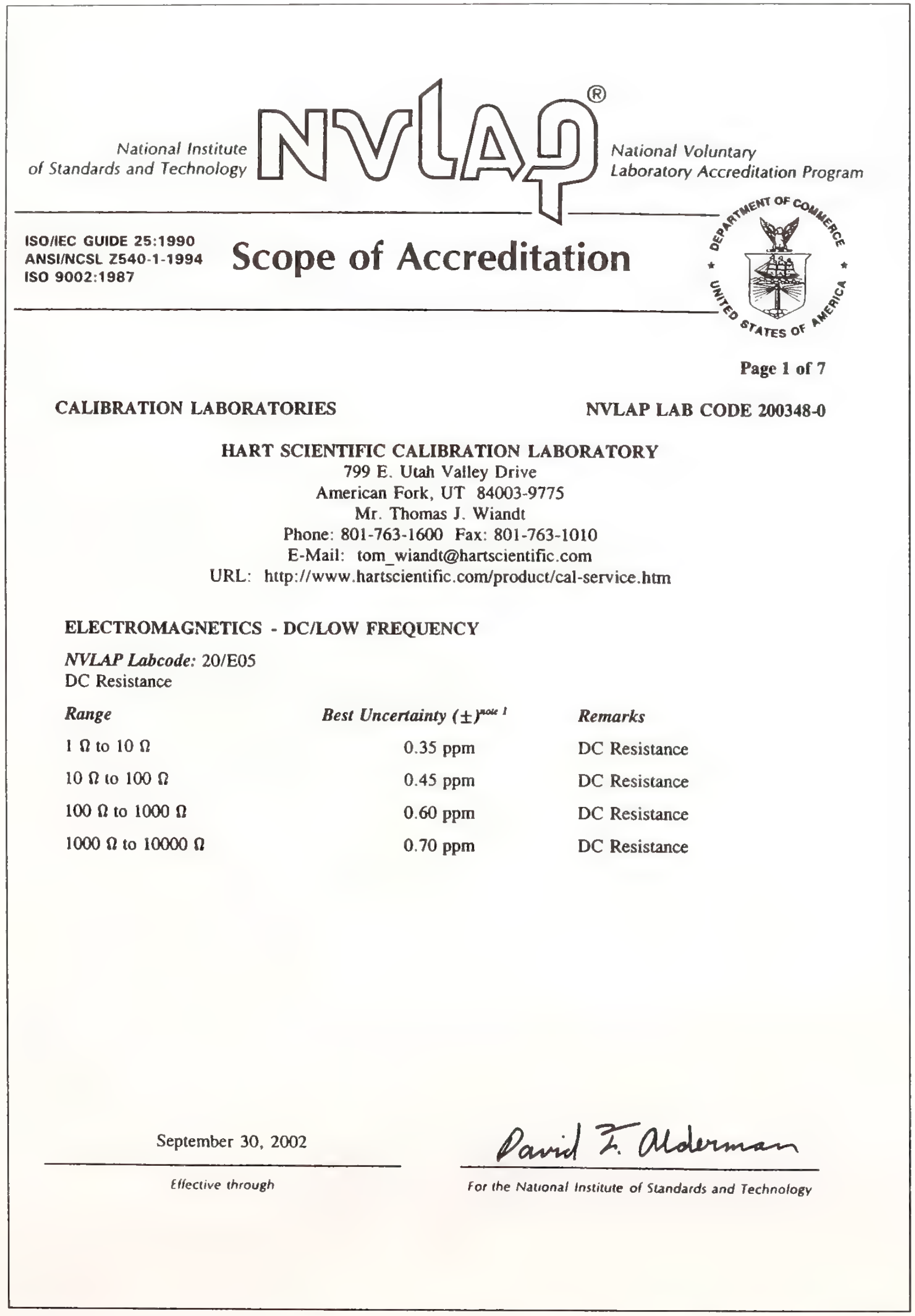

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CALIBRATION LABORATORIES **NVLAP LAB CODE 200348-0**

HART SCIENTIFIC CALIBRATION LABORATORY
799 E. Utah Valley Drive
American Fork, UT 84003-9775
Mr. Thomas J. Wiandt
Phone: 801-763-1600 Fax: 801-763-1010
E-Mail: tom_wiandt@hartscientific.com
URL: http://www.hartscientific.com/product/cal-service.htm

ELECTROMAGNETICS - DC/LOW FREQUENCY

NVLAP Labcode: 20/E05
DC Resistance

Range	*Best Uncertainty* $(\pm)^{note\ 1}$	*Remarks*
1 Ω to 10 Ω	0.35 ppm	DC Resistance
10 Ω to 100 Ω	0.45 ppm	DC Resistance
100 Ω to 1000 Ω	0.60 ppm	DC Resistance
1000 Ω to 10000 Ω	0.70 ppm	DC Resistance

September 30, 2002
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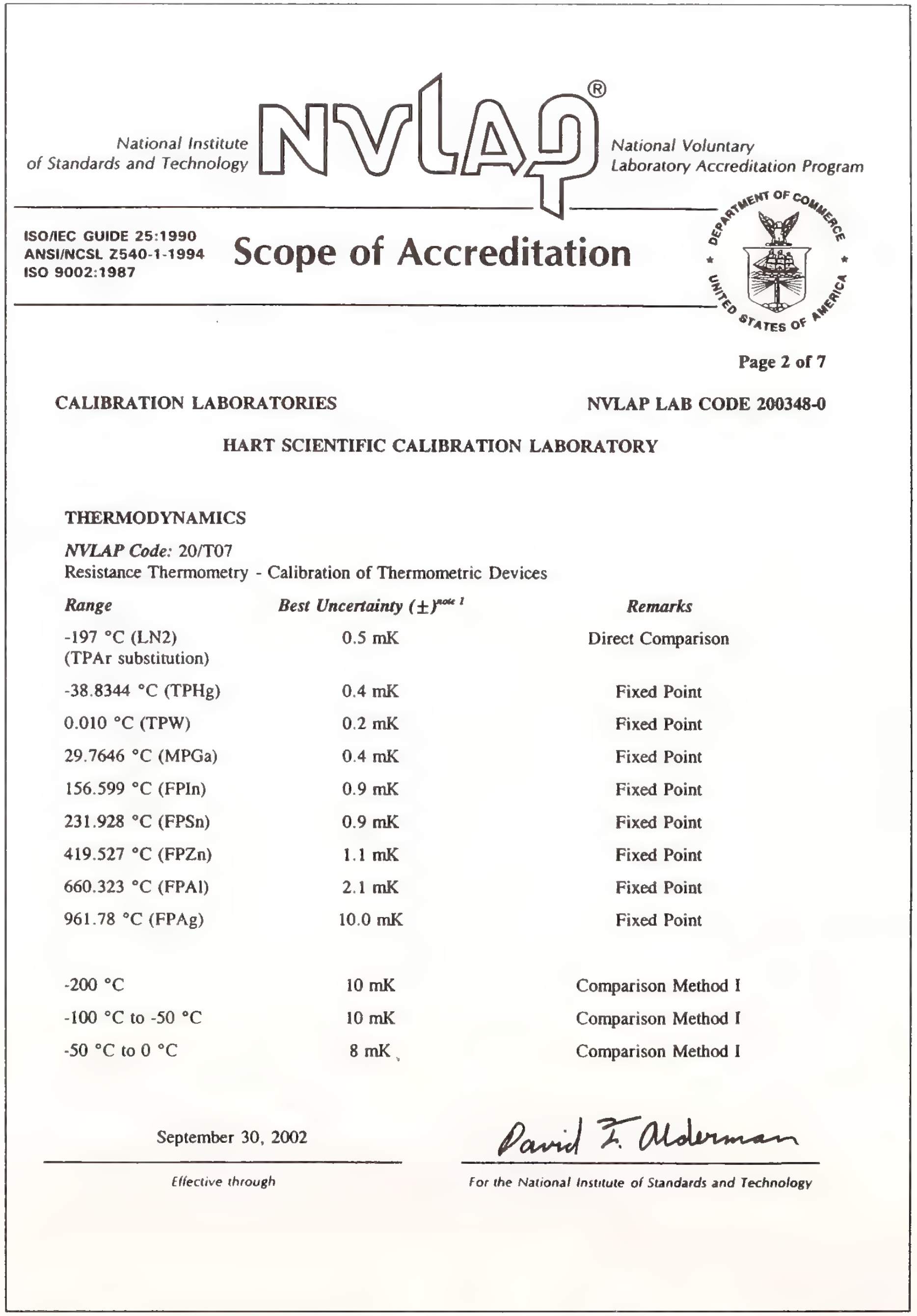

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CALIBRATION LABORATORIES **NVLAP LAB CODE 200348-0**

HART SCIENTIFIC CALIBRATION LABORATORY

THERMODYNAMICS

NVLAP Code: 20/T07
Resistance Thermometry - Calibration of Thermometric Devices

Range	*Best Uncertainty* $(\pm)^{note\ 1}$	*Remarks*
-197 °C (LN2) (TPAr substitution)	0.5 mK	Direct Comparison
-38.8344 °C (TPHg)	0.4 mK	Fixed Point
0.010 °C (TPW)	0.2 mK	Fixed Point
29.7646 °C (MPGa)	0.4 mK	Fixed Point
156.599 °C (FPIn)	0.9 mK	Fixed Point
231.928 °C (FPSn)	0.9 mK	Fixed Point
419.527 °C (FPZn)	1.1 mK	Fixed Point
660.323 °C (FPAl)	2.1 mK	Fixed Point
961.78 °C (FPAg)	10.0 mK	Fixed Point
-200 °C	10 mK	Comparison Method I
-100 °C to -50 °C	10 mK	Comparison Method I
-50 °C to 0 °C	8 mK	Comparison Method I

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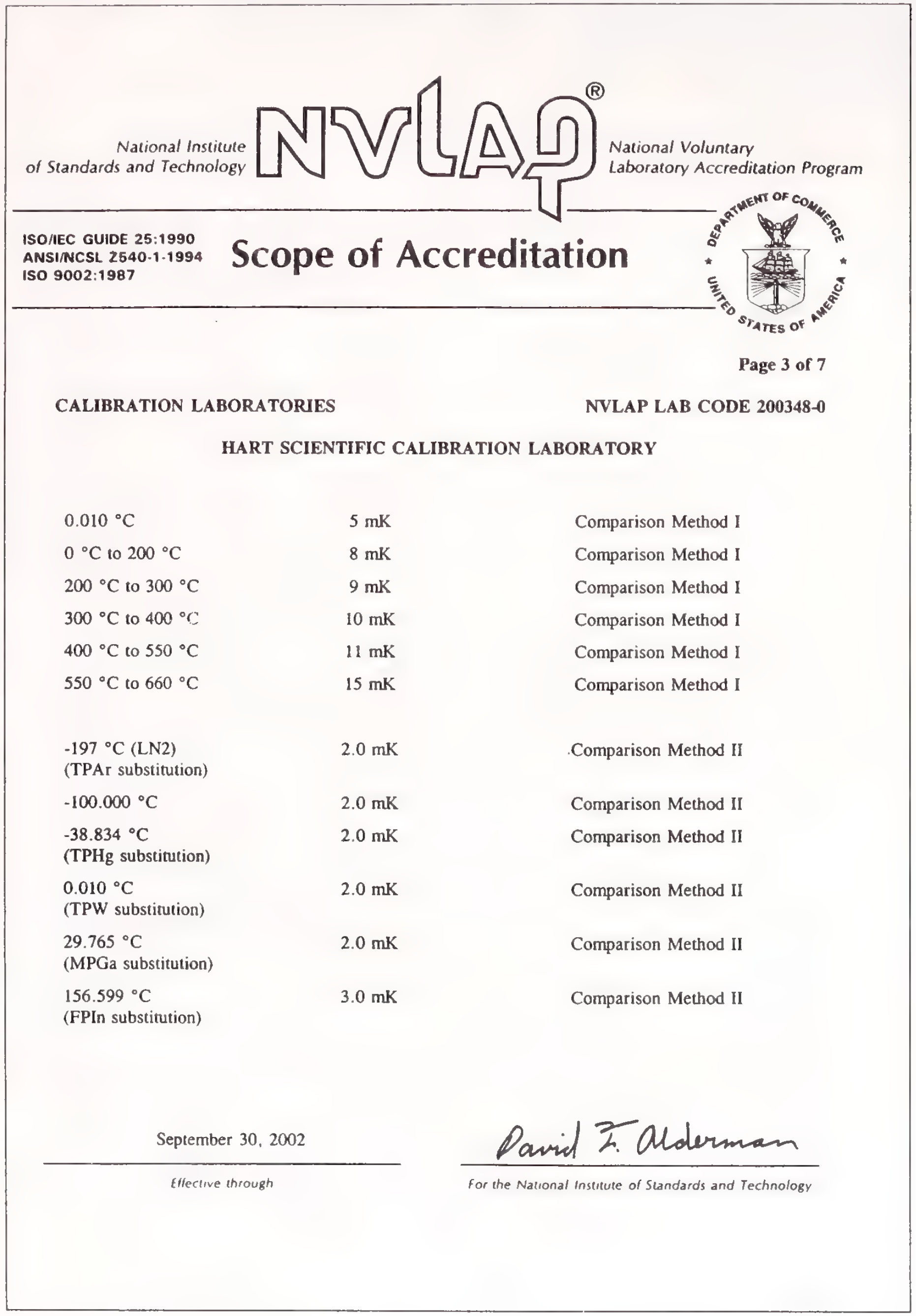

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HART SCIENTIFIC CALIBRATION LABORATORY

0.010 °C	5 mK	Comparison Method I
0 °C to 200 °C	8 mK	Comparison Method I
200 °C to 300 °C	9 mK	Comparison Method I
300 °C to 400 °C	10 mK	Comparison Method I
400 °C to 550 °C	11 mK	Comparison Method I
550 °C to 660 °C	15 mK	Comparison Method I
-197 °C (LN2) (TPAr substitution)	2.0 mK	Comparison Method II
-100.000 °C	2.0 mK	Comparison Method II
-38.834 °C (TPHg substitution)	2.0 mK	Comparison Method II
0.010 °C (TPW substitution)	2.0 mK	Comparison Method II
29.765 °C (MPGa substitution)	2.0 mK	Comparison Method II
156.599 °C (FPIn substitution)	3.0 mK	Comparison Method II

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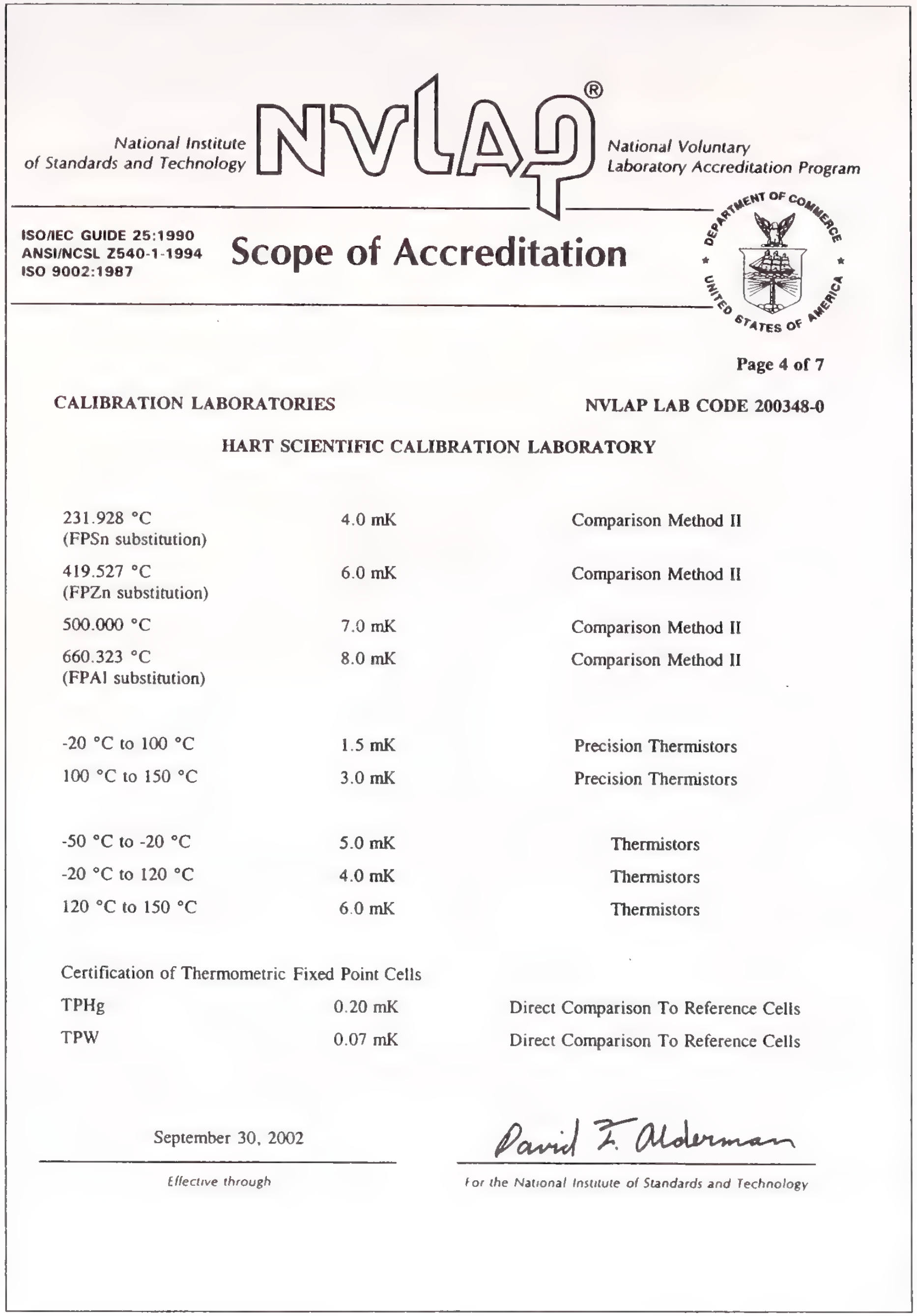

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HART SCIENTIFIC CALIBRATION LABORATORY

231.928 °C (FPSn substitution)	4.0 mK	Comparison Method II
419.527 °C (FPZn substitution)	6.0 mK	Comparison Method II
500.000 °C	7.0 mK	Comparison Method II
660.323 °C (FPAl substitution)	8.0 mK	Comparison Method II
-20 °C to 100 °C	1.5 mK	Precision Thermistors
100 °C to 150 °C	3.0 mK	Precision Thermistors
-50 °C to -20 °C	5.0 mK	Thermistors
-20 °C to 120 °C	4.0 mK	Thermistors
120 °C to 150 °C	6.0 mK	Thermistors

Certification of Thermometric Fixed Point Cells

TPHg	0.20 mK	Direct Comparison To Reference Cells
TPW	0.07 mK	Direct Comparison To Reference Cells

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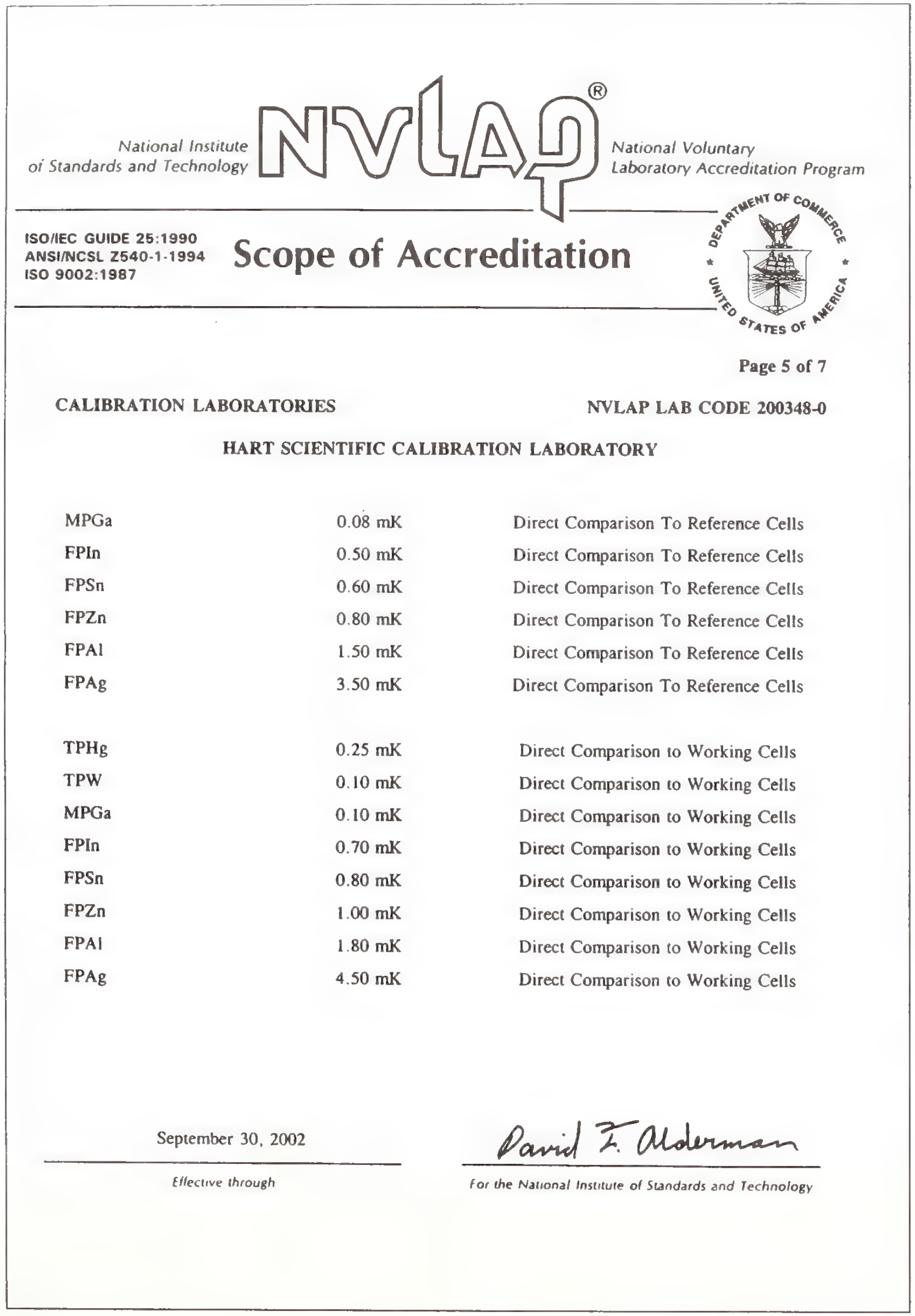

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HART SCIENTIFIC CALIBRATION LABORATORY

MPGa	0.08 mK	Direct Comparison To Reference Cells
FPIn	0.50 mK	Direct Comparison To Reference Cells
FPSn	0.60 mK	Direct Comparison To Reference Cells
FPZn	0.80 mK	Direct Comparison To Reference Cells
FPAl	1.50 mK	Direct Comparison To Reference Cells
FPAg	3.50 mK	Direct Comparison To Reference Cells
TPHg	0.25 mK	Direct Comparison to Working Cells
TPW	0.10 mK	Direct Comparison to Working Cells
MPGa	0.10 mK	Direct Comparison to Working Cells
FPIn	0.70 mK	Direct Comparison to Working Cells
FPSn	0.80 mK	Direct Comparison to Working Cells
FPZn	1.00 mK	Direct Comparison to Working Cells
FPAl	1.80 mK	Direct Comparison to Working Cells
FPAg	4.50 mK	Direct Comparison to Working Cells

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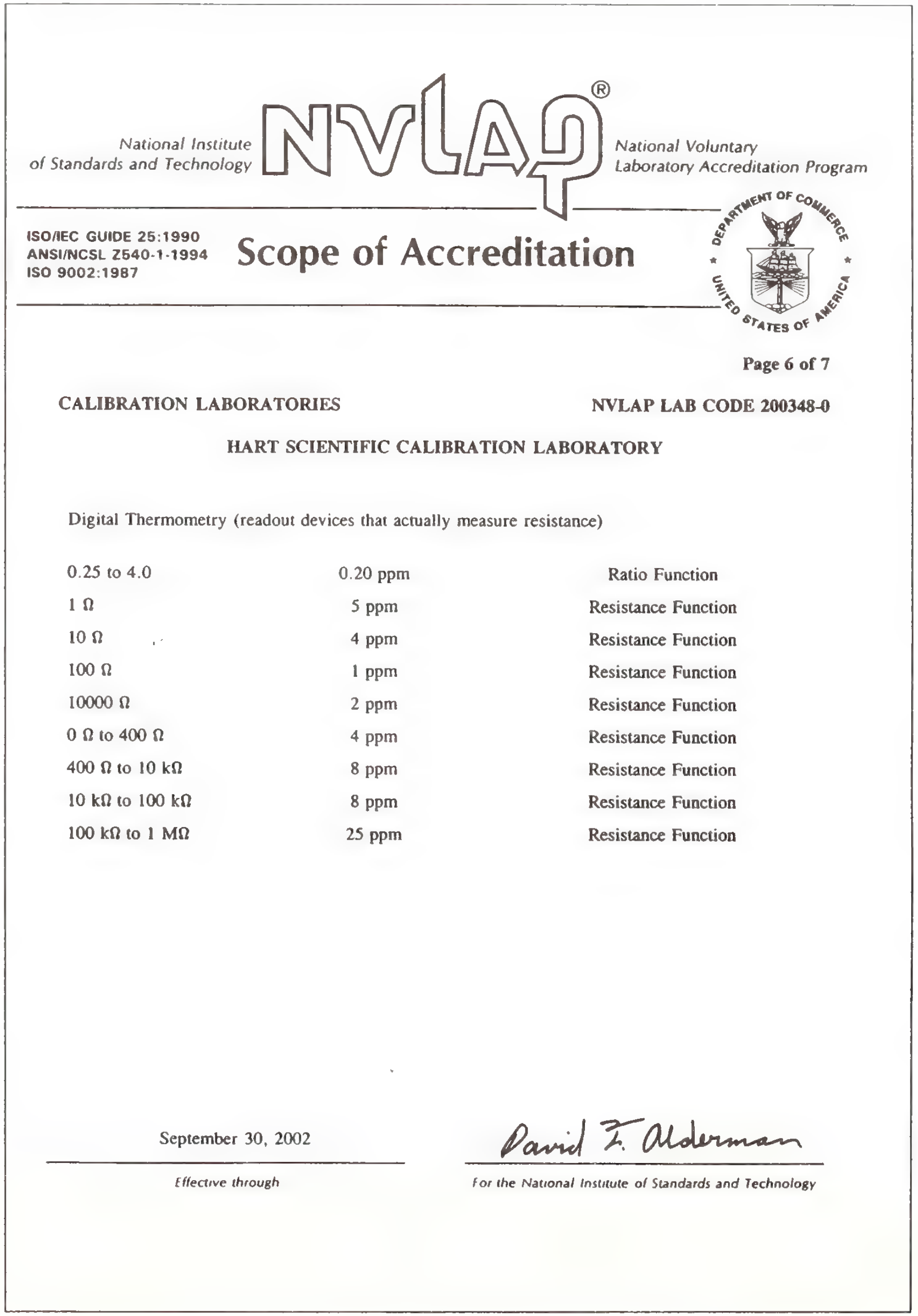

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HART SCIENTIFIC CALIBRATION LABORATORY

Digital Thermometry (readout devices that actually measure resistance)

0.25 to 4.0	0.20 ppm	Ratio Function
1 Ω	5 ppm	Resistance Function
10 Ω	4 ppm	Resistance Function
100 Ω	1 ppm	Resistance Function
10000 Ω	2 ppm	Resistance Function
0 Ω to 400 Ω	4 ppm	Resistance Function
400 Ω to 10 kΩ	8 ppm	Resistance Function
10 kΩ to 100 kΩ	8 ppm	Resistance Function
100 kΩ to 1 MΩ	25 ppm	Resistance Function

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CALIBRATION LABORATORIES **NVLAP LAB CODE 200348-0**

HART SCIENTIFIC CALIBRATION LABORATORY

NVLAP Code: 20/T08
Thermocouples

Range	*Best Uncertainty* (±)$^{\text{note 1}}$	*Remarks*
Type S & Type R	100 mK	Fixed Point
Au/Pt	20 mK	Fixed Point

Digital Thermometers

0 °C to 25.0 °C	10 mK	Internal Reference Junction Compensation

Digital Thermometers (readout devices that actually measure voltage)

0 mV to 50 mV	0.45 μV	Voltage Function
50 mV to 100 mV	0.75 μV	Voltage Function

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1. Represents an expanded uncertainty using a coverage factor, k=2.

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CALIBRATION LABORATORIES **NVLAP LAB CODE 200352-0**

VERIZON LOGISTICS, ELECTRONIC REPAIR SERVICES
3301 Wayne Trace
Fort Wayne, IN 46806-1400
Mr. Jeff C. Gust
Phone: 219-428-6504 Fax: 219-424-1031
E-Mail: jeff.gust@verizon.com
URL: http://www.vzlogistics.com

ELECTROMAGNETICS - DC/LOW FREQUENCY

NVLAP Code: 20/E05
DC Resistance

Range	*Best Uncertainty* (±)$^{\text{note 1}}$	*Remarks*
0.001 ohm	1.5 ppm	
0.01 ohm	1 ppm	
0.1 ohm	1 ppm	
1 ohm	0.5 ppm	
10 ohm	2.5 ppm	
100 ohm	3.5 ppm	
1,000 ohm	4.5 ppm	
10,000 ohm	0.5 ppm	
100,000 ohm	2.5 ppm	
1,000,000 ohm	7 ppm	

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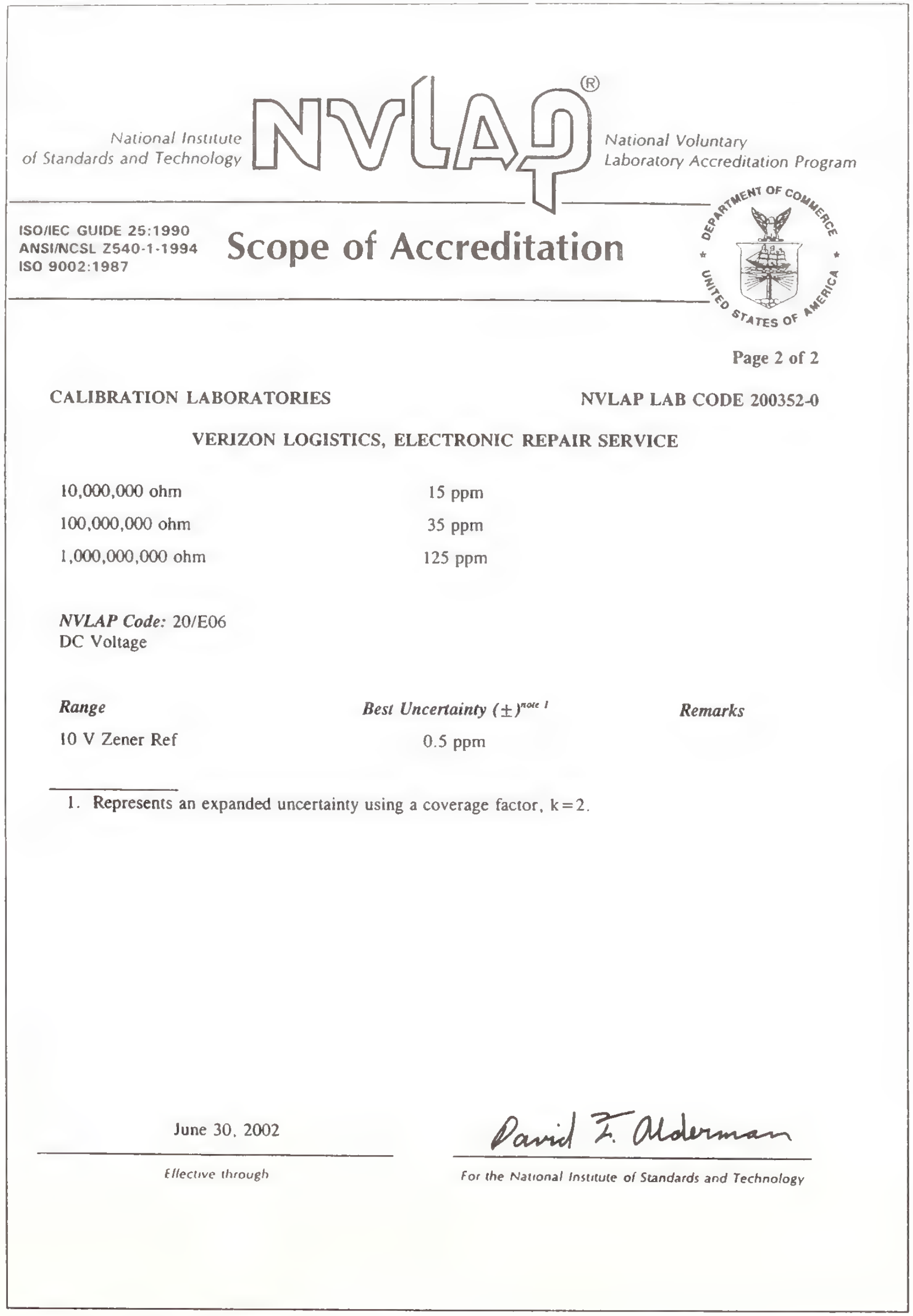

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VERIZON LOGISTICS, ELECTRONIC REPAIR SERVICE

10,000,000 ohm	15 ppm
100,000,000 ohm	35 ppm
1,000,000,000 ohm	125 ppm

NVLAP Code: 20/E06
DC Voltage

Range	*Best Uncertainty* (±)$^{note\ 1}$	*Remarks*
10 V Zener Ref	0.5 ppm	

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1. Represents an expanded uncertainty using a coverage factor, k=2.

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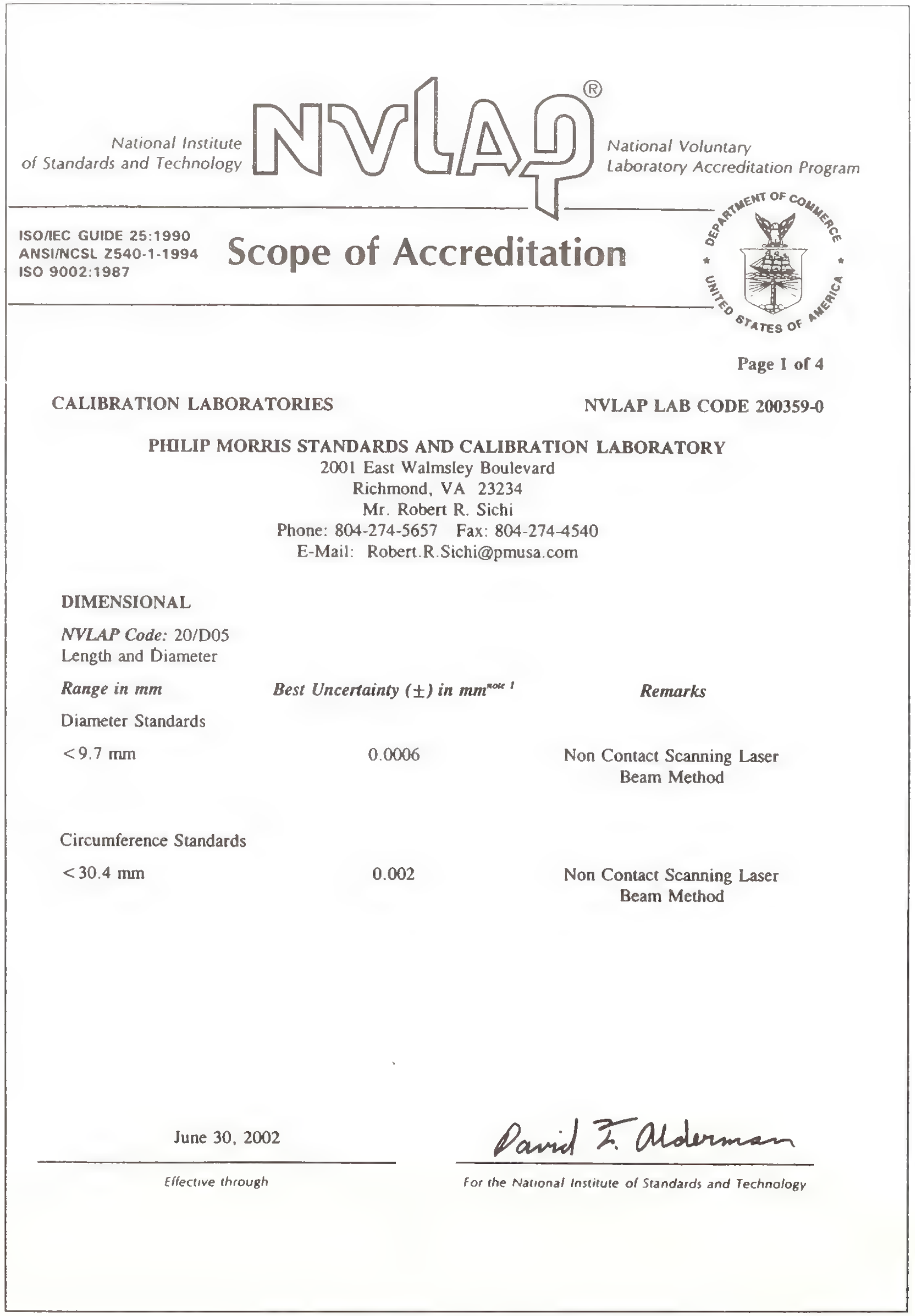

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CALIBRATION LABORATORIES — NVLAP LAB CODE 200359-0

PHILIP MORRIS STANDARDS AND CALIBRATION LABORATORY
2001 East Walmsley Boulevard
Richmond, VA 23234
Mr. Robert R. Sichi
Phone: 804-274-5657   Fax: 804-274-4540
E-Mail: Robert.R.Sichi@pmusa.com

DIMENSIONAL

NVLAP Code: 20/D05
Length and Diameter

Range in mm	*Best Uncertainty* (±) *in mm*$^{note\ 1}$	*Remarks*
Diameter Standards		
<9.7 mm	0.0006	Non Contact Scanning Laser Beam Method
Circumference Standards		
<30.4 mm	0.002	Non Contact Scanning Laser Beam Method

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CALIBRATION LABORATORIES **NVLAP LAB CODE 200359-0**

PHILIP MORRIS STANDARDS AND CALIBRATION LABORATORY
2001 East Walmsley Boulevard
Richmond, VA 23234
Mr. Robert R. Sichi
Phone: 804-274-5657 Fax: 804-274-4540
E-Mail: Robert.R.Sichi@pmusa.com

MECHANICAL

NVLAP Code: 20/M05
Flow Rate

Range	*Best Uncertainty (±) in % of value*^{note 1}	*Remarks*
5 mL/min to 4.5 L/min	0.7	Paper Permeability Standards
20mm to 1000mm H_20 Pressure Drop	0.4 + 0.5 mm H_20	Resistance to Draw Complies with ISO 6565
10% to 95% Ventilation	1.0	Cigarettes Determination of Ventilation Complies with ISO 9512

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NVLAP Code: 20/M08
Mass

Range	*Best Uncertainty (±) in mg*[note 1]	*Remarks*
1 kg	0.434	Direct Comparison
500 g	0.232	Direct Comparison
200 g	0.135	Direct Comparison
100 g	0.024	Direct Comparison
50 g	0.016	Direct Comparison
20 g	0.016	Direct Comparison
10 g	0.015	Direct Comparison
5 g	0.011	Direct Comparison
2 g	0.009	Direct Comparison
1 g	0.009	Direct Comparison
500 mg	0.009	Direct Comparison
200 mg	0.009	Direct Comparison
100 mg	0.009	Direct Comparison
50 mg	0.009	Direct Comparison
20 mg	0.009	Direct Comparison

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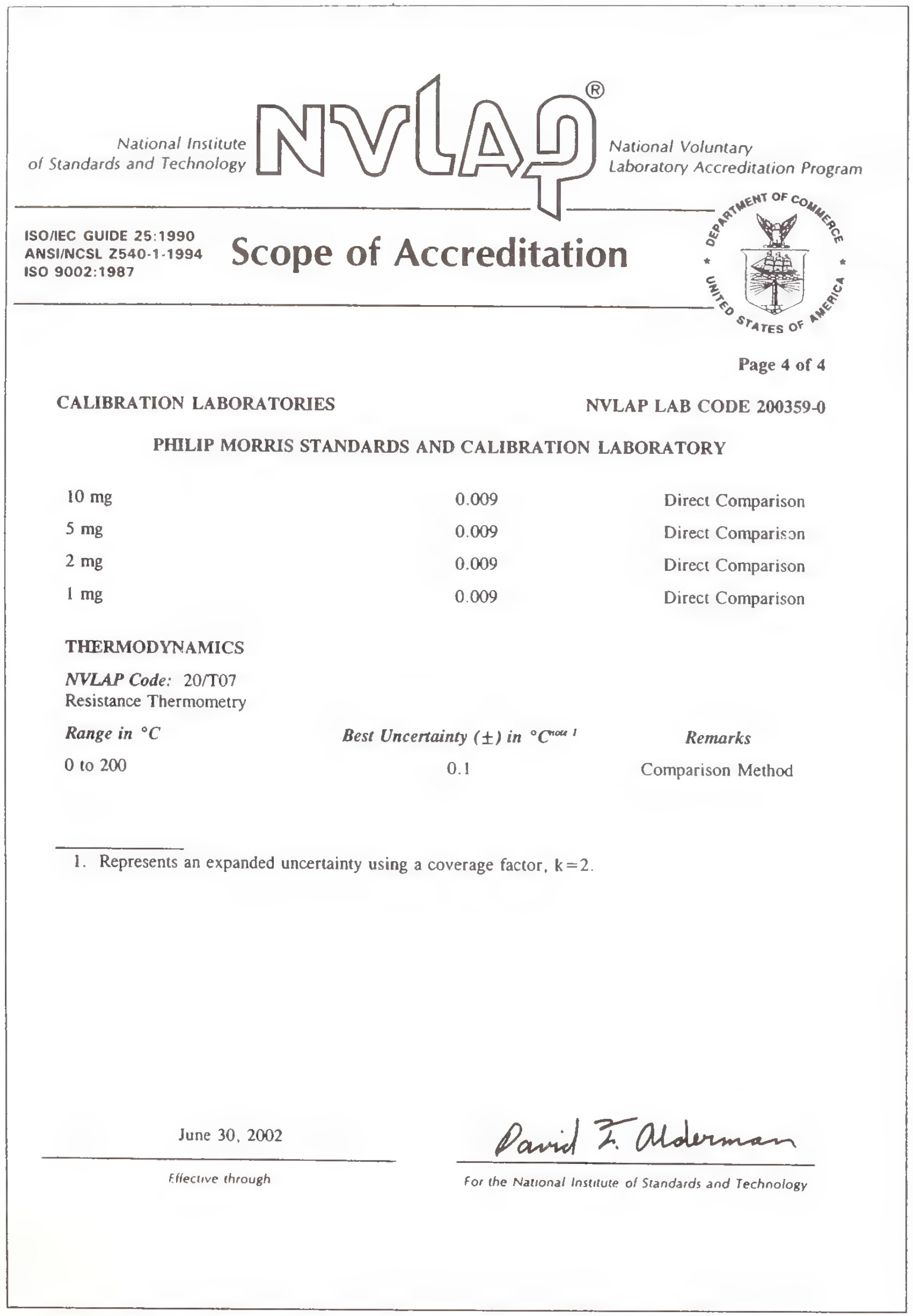

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CALIBRATION LABORATORIES — NVLAP LAB CODE 200359-0

PHILIP MORRIS STANDARDS AND CALIBRATION LABORATORY

10 mg	0.009	Direct Comparison
5 mg	0.009	Direct Comparison
2 mg	0.009	Direct Comparison
1 mg	0.009	Direct Comparison

THERMODYNAMICS

NVLAP Code: 20/T07
Resistance Thermometry

Range in °C	*Best Uncertainty (±) in °C*$^{\text{note 1}}$	*Remarks*
0 to 200	0.1	Comparison Method

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[1] Represents an expanded uncertainty using a coverage factor, k=2.

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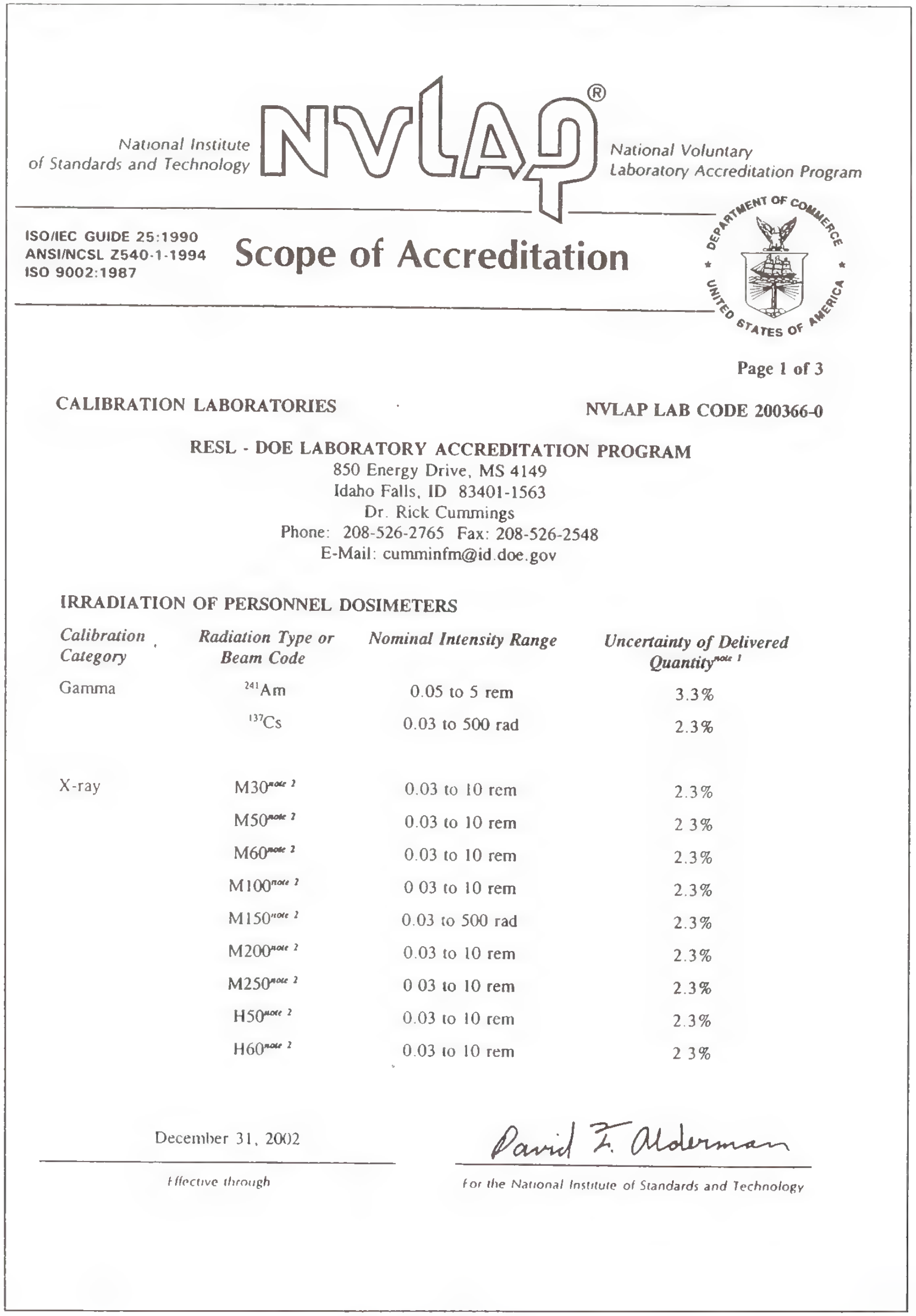

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CALIBRATION LABORATORIES — NVLAP LAB CODE 200366-0

RESL - DOE LABORATORY ACCREDITATION PROGRAM
850 Energy Drive, MS 4149
Idaho Falls, ID 83401-1563
Dr. Rick Cummings
Phone: 208-526-2765 Fax: 208-526-2548
E-Mail: cumminfm@id.doe.gov

IRRADIATION OF PERSONNEL DOSIMETERS

Calibration Category	*Radiation Type or Beam Code*	*Nominal Intensity Range*	*Uncertainty of Delivered Quantity*$^{\text{note 1}}$
Gamma	^{241}Am	0.05 to 5 rem	3.3%
	^{137}Cs	0.03 to 500 rad	2.3%
X-ray	M30$^{\text{note 2}}$	0.03 to 10 rem	2.3%
	M50$^{\text{note 2}}$	0.03 to 10 rem	2.3%
	M60$^{\text{note 2}}$	0.03 to 10 rem	2.3%
	M100$^{\text{note 2}}$	0.03 to 10 rem	2.3%
	M150$^{\text{note 2}}$	0.03 to 500 rad	2.3%
	M200$^{\text{note 2}}$	0.03 to 10 rem	2.3%
	M250$^{\text{note 2}}$	0.03 to 10 rem	2.3%
	H50$^{\text{note 2}}$	0.03 to 10 rem	2.3%
	H60$^{\text{note 2}}$	0.03 to 10 rem	2.3%

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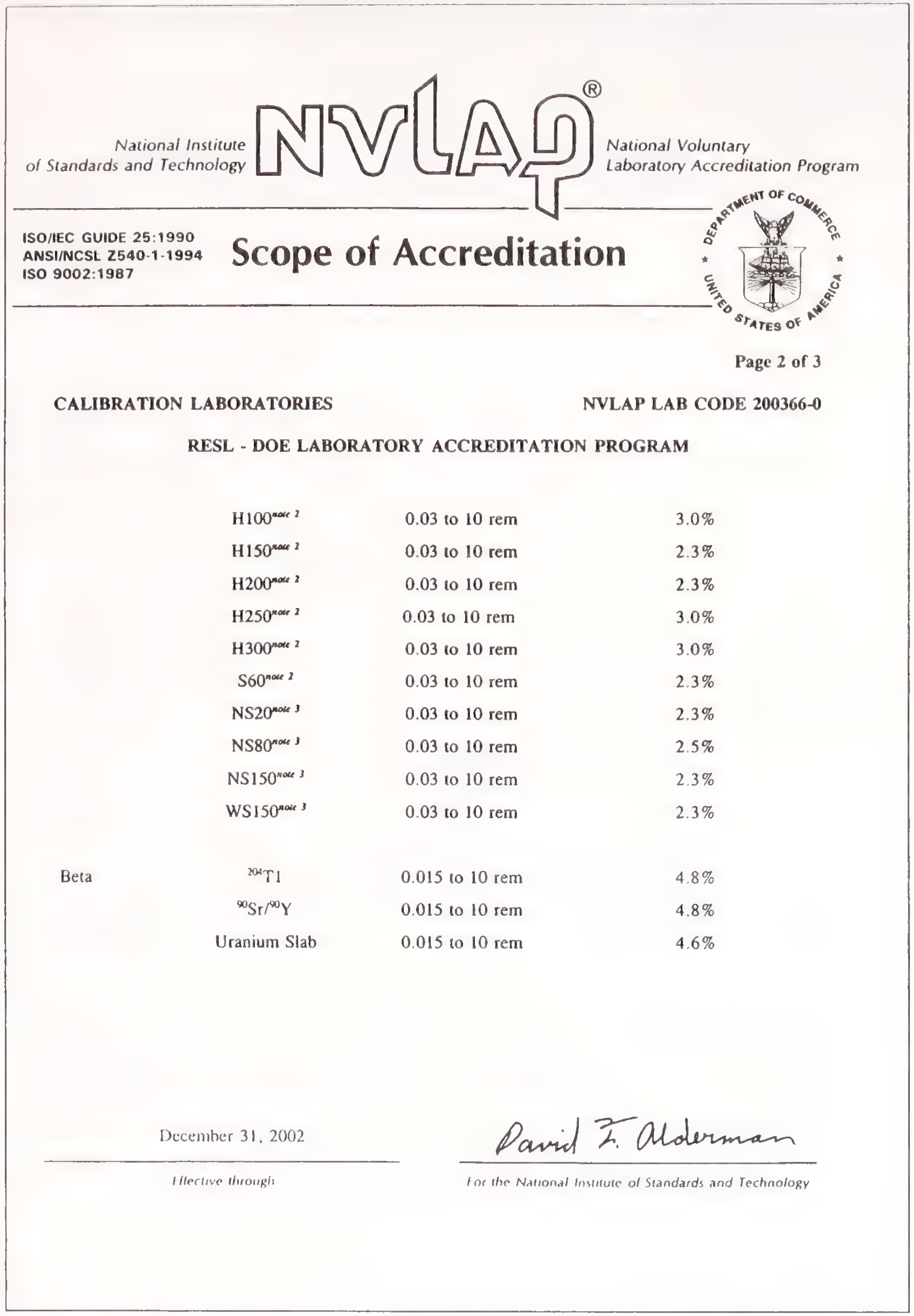

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RESL - DOE LABORATORY ACCREDITATION PROGRAM

	H100$^{\text{note 2}}$	0.03 to 10 rem	3.0%
	H150$^{\text{note 2}}$	0.03 to 10 rem	2.3%
	H200$^{\text{note 2}}$	0.03 to 10 rem	2.3%
	H250$^{\text{note 2}}$	0.03 to 10 rem	3.0%
	H300$^{\text{note 2}}$	0.03 to 10 rem	3.0%
	S60$^{\text{note 2}}$	0.03 to 10 rem	2.3%
	NS20$^{\text{note 3}}$	0.03 to 10 rem	2.3%
	NS80$^{\text{note 3}}$	0.03 to 10 rem	2.5%
	NS150$^{\text{note 3}}$	0.03 to 10 rem	2.3%
	WS150$^{\text{note 3}}$	0.03 to 10 rem	2.3%
Beta	^{204}Tl	0.015 to 10 rem	4.8%
	^{90}Sr/^{90}Y	0.015 to 10 rem	4.8%
	Uranium Slab	0.015 to 10 rem	4.6%

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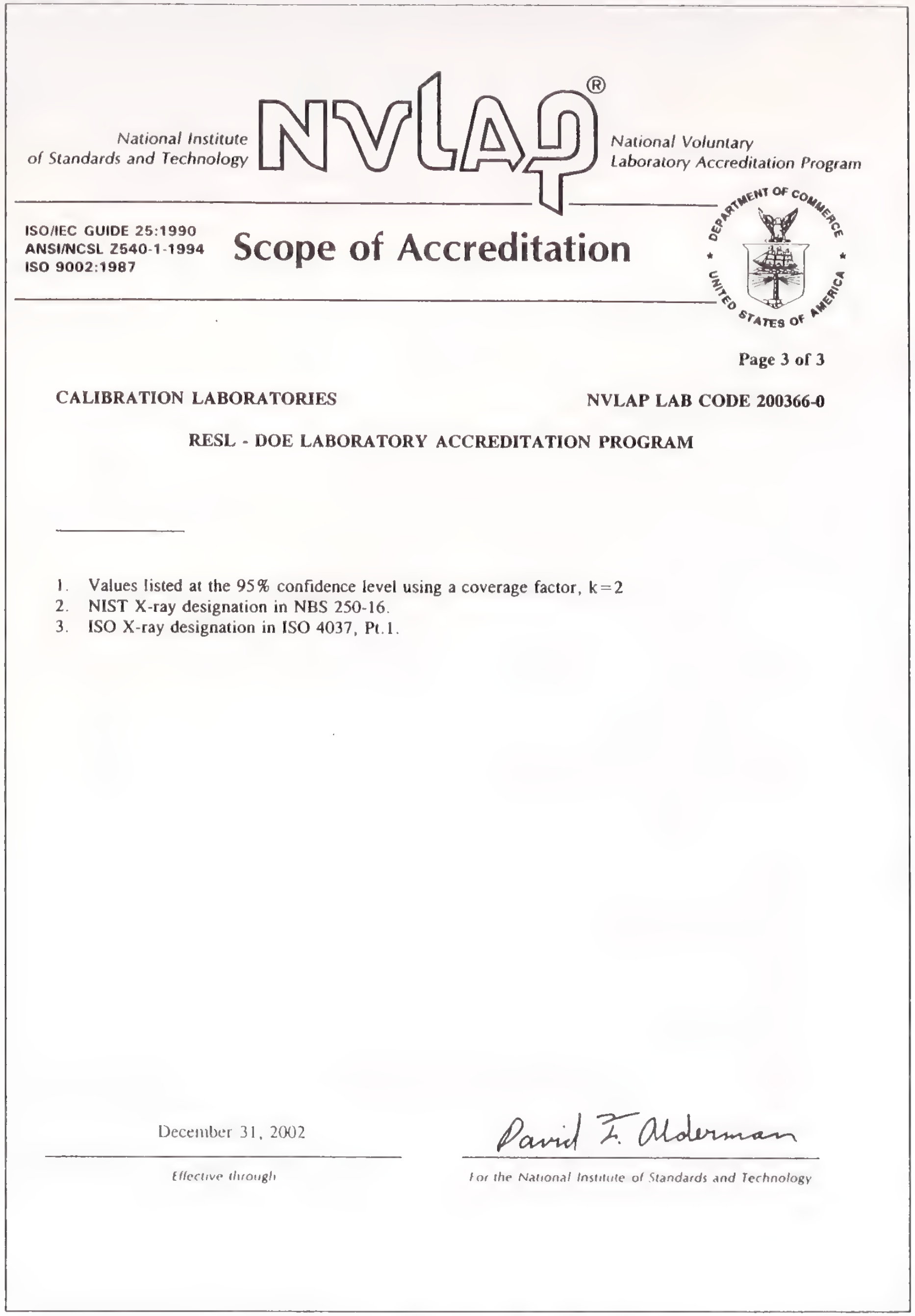

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RESL - DOE LABORATORY ACCREDITATION PROGRAM

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1. Values listed at the 95% confidence level using a coverage factor, k=2
2. NIST X-ray designation in NBS 250-16.
3. ISO X-ray designation in ISO 4037, Pt.1.

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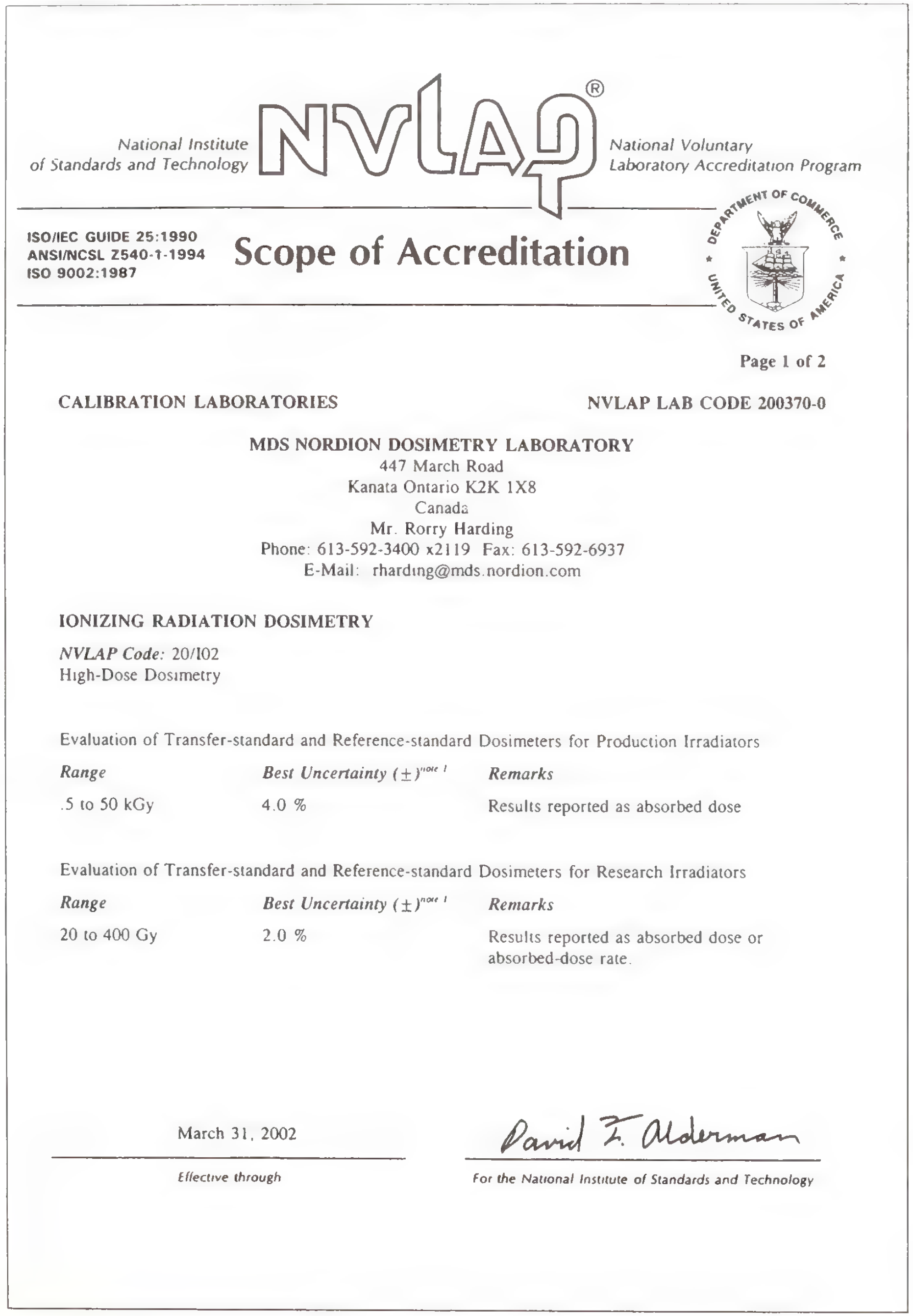

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CALIBRATION LABORATORIES **NVLAP LAB CODE 200370-0**

MDS NORDION DOSIMETRY LABORATORY
447 March Road
Kanata Ontario K2K 1X8
Canada
Mr. Rorry Harding
Phone: 613-592-3400 x2119 Fax: 613-592-6937
E-Mail: rharding@mds.nordion.com

IONIZING RADIATION DOSIMETRY

NVLAP Code: 20/102
High-Dose Dosimetry

Evaluation of Transfer-standard and Reference-standard Dosimeters for Production Irradiators

Range	*Best Uncertainty* (±)[note 1]	*Remarks*
.5 to 50 kGy	4.0 %	Results reported as absorbed dose

Evaluation of Transfer-standard and Reference-standard Dosimeters for Research Irradiators

Range	*Best Uncertainty* (±)[note 1]	*Remarks*
20 to 400 Gy	2.0 %	Results reported as absorbed dose or absorbed-dose rate.

March 31, 2002
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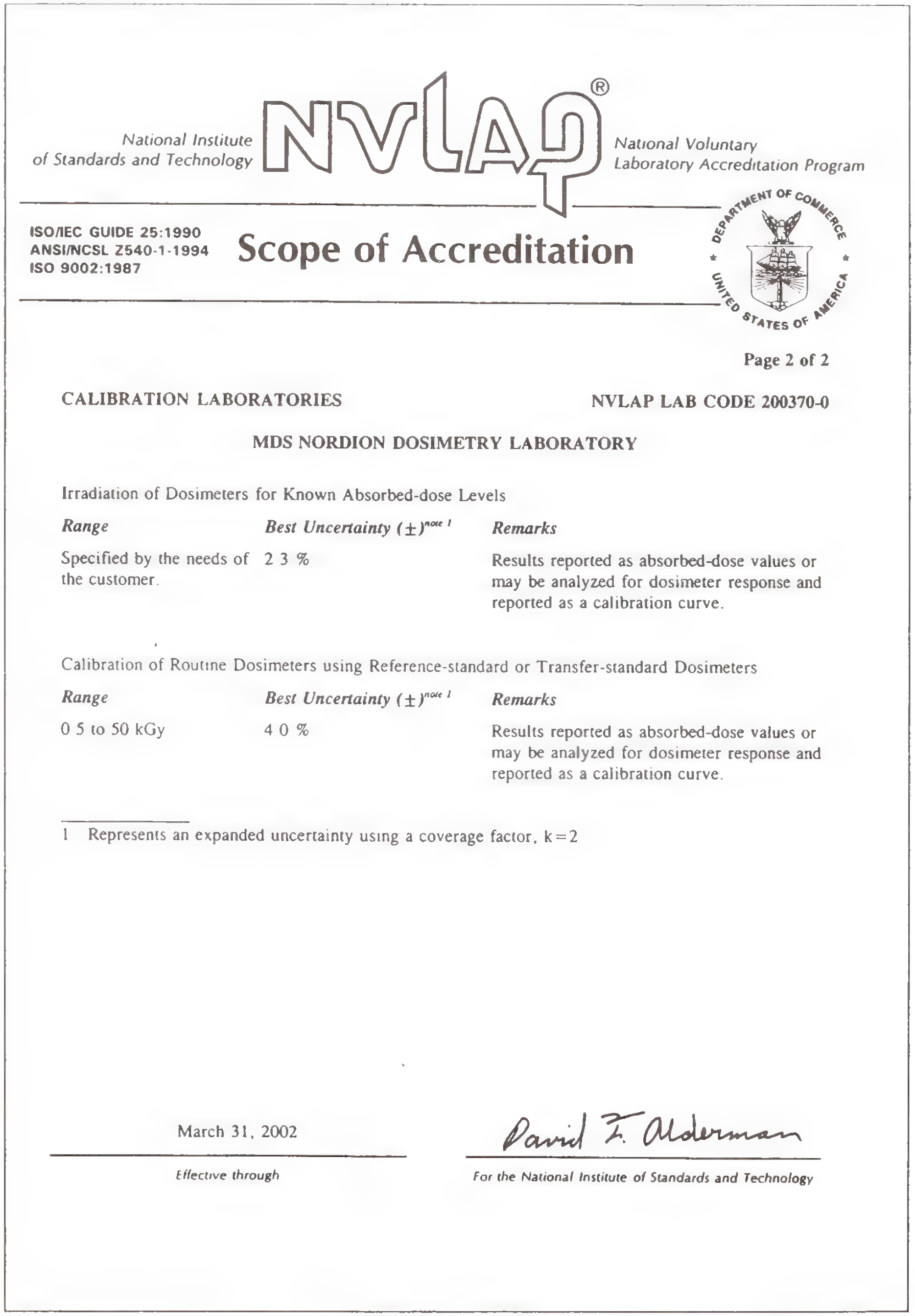

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CALIBRATION LABORATORIES **NVLAP LAB CODE 200370-0**

MDS NORDION DOSIMETRY LABORATORY

Irradiation of Dosimeters for Known Absorbed-dose Levels

Range	*Best Uncertainty* (±)[note 1]	*Remarks*
Specified by the needs of the customer.	2 3 %	Results reported as absorbed-dose values or may be analyzed for dosimeter response and reported as a calibration curve.

Calibration of Routine Dosimeters using Reference-standard or Transfer-standard Dosimeters

Range	*Best Uncertainty* (±)[note 1]	*Remarks*
0 5 to 50 kGy	4 0 %	Results reported as absorbed-dose values or may be analyzed for dosimeter response and reported as a calibration curve.

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[1] Represents an expanded uncertainty using a coverage factor, k=2

March 31, 2002
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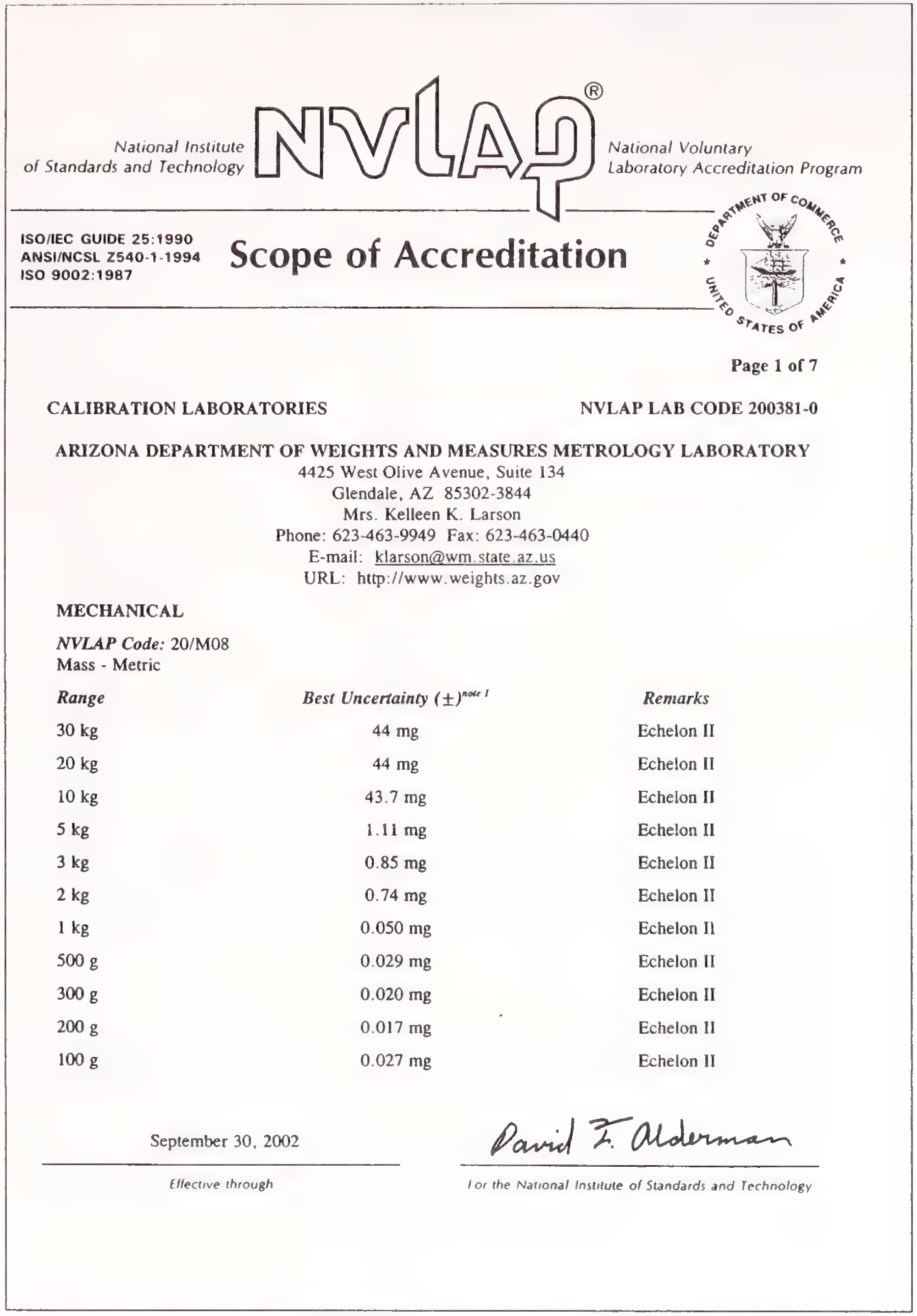

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CALIBRATION LABORATORIES NVLAP LAB CODE 200381-0

ARIZONA DEPARTMENT OF WEIGHTS AND MEASURES METROLOGY LABORATORY

4425 West Olive Avenue, Suite 134
Glendale, AZ 85302-3844
Mrs. Kelleen K. Larson
Phone: 623-463-9949 Fax: 623-463-0440
E-mail: klarson@wm.state.az.us
URL: http://www.weights.az.gov

MECHANICAL

NVLAP Code: 20/M08
Mass - Metric

Range	*Best Uncertainty* $(\pm)^{note\ 1}$	*Remarks*
30 kg	44 mg	Echelon II
20 kg	44 mg	Echelon II
10 kg	43.7 mg	Echelon II
5 kg	1.11 mg	Echelon II
3 kg	0.85 mg	Echelon II
2 kg	0.74 mg	Echelon II
1 kg	0.050 mg	Echelon II
500 g	0.029 mg	Echelon II
300 g	0.020 mg	Echelon II
200 g	0.017 mg	Echelon II
100 g	0.027 mg	Echelon II

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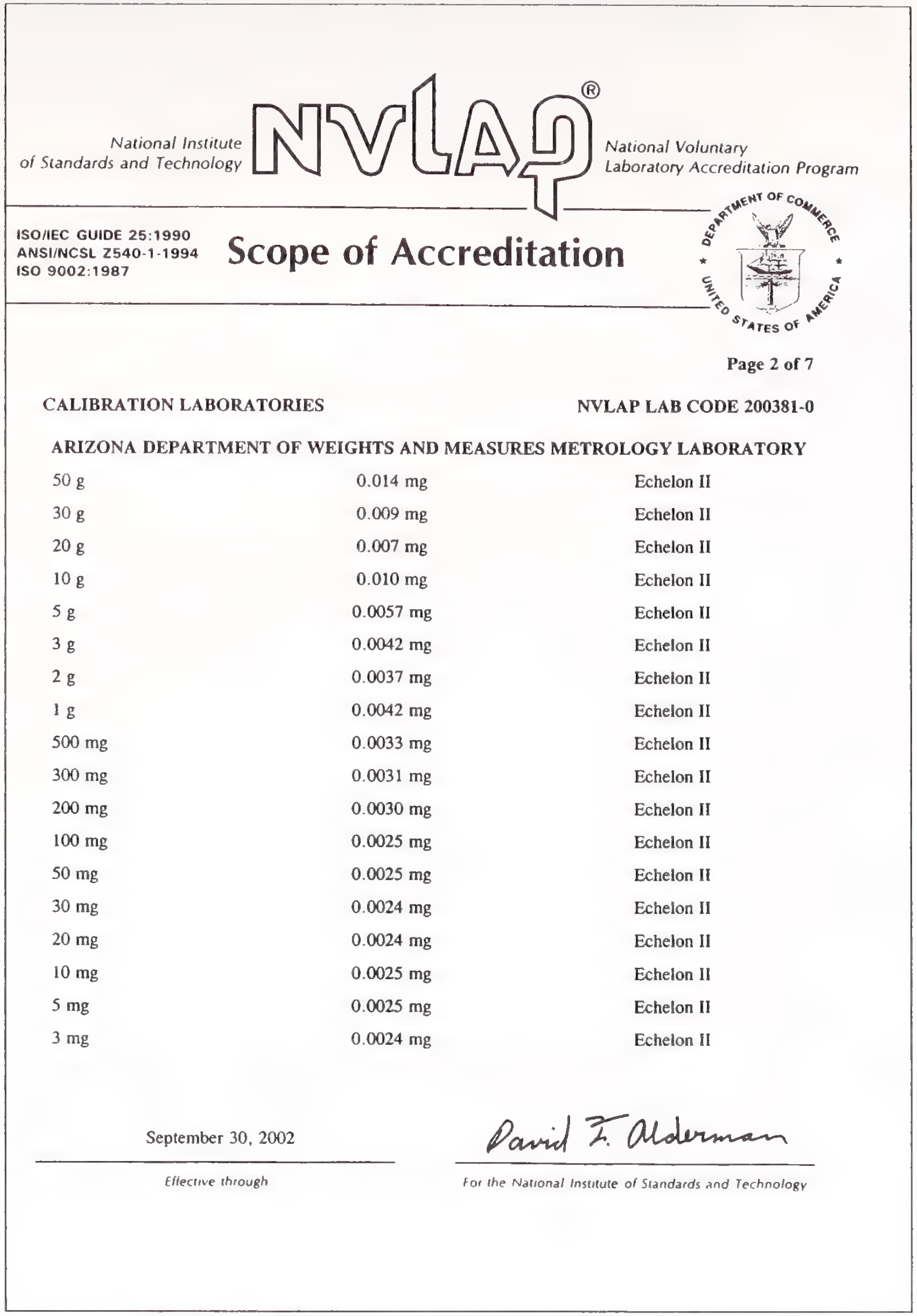

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ARIZONA DEPARTMENT OF WEIGHTS AND MEASURES METROLOGY LABORATORY

50 g	0.014 mg	Echelon II
30 g	0.009 mg	Echelon II
20 g	0.007 mg	Echelon II
10 g	0.010 mg	Echelon II
5 g	0.0057 mg	Echelon II
3 g	0.0042 mg	Echelon II
2 g	0.0037 mg	Echelon II
1 g	0.0042 mg	Echelon II
500 mg	0.0033 mg	Echelon II
300 mg	0.0031 mg	Echelon II
200 mg	0.0030 mg	Echelon II
100 mg	0.0025 mg	Echelon II
50 mg	0.0025 mg	Echelon II
30 mg	0.0024 mg	Echelon II
20 mg	0.0024 mg	Echelon II
10 mg	0.0025 mg	Echelon II
5 mg	0.0025 mg	Echelon II
3 mg	0.0024 mg	Echelon II

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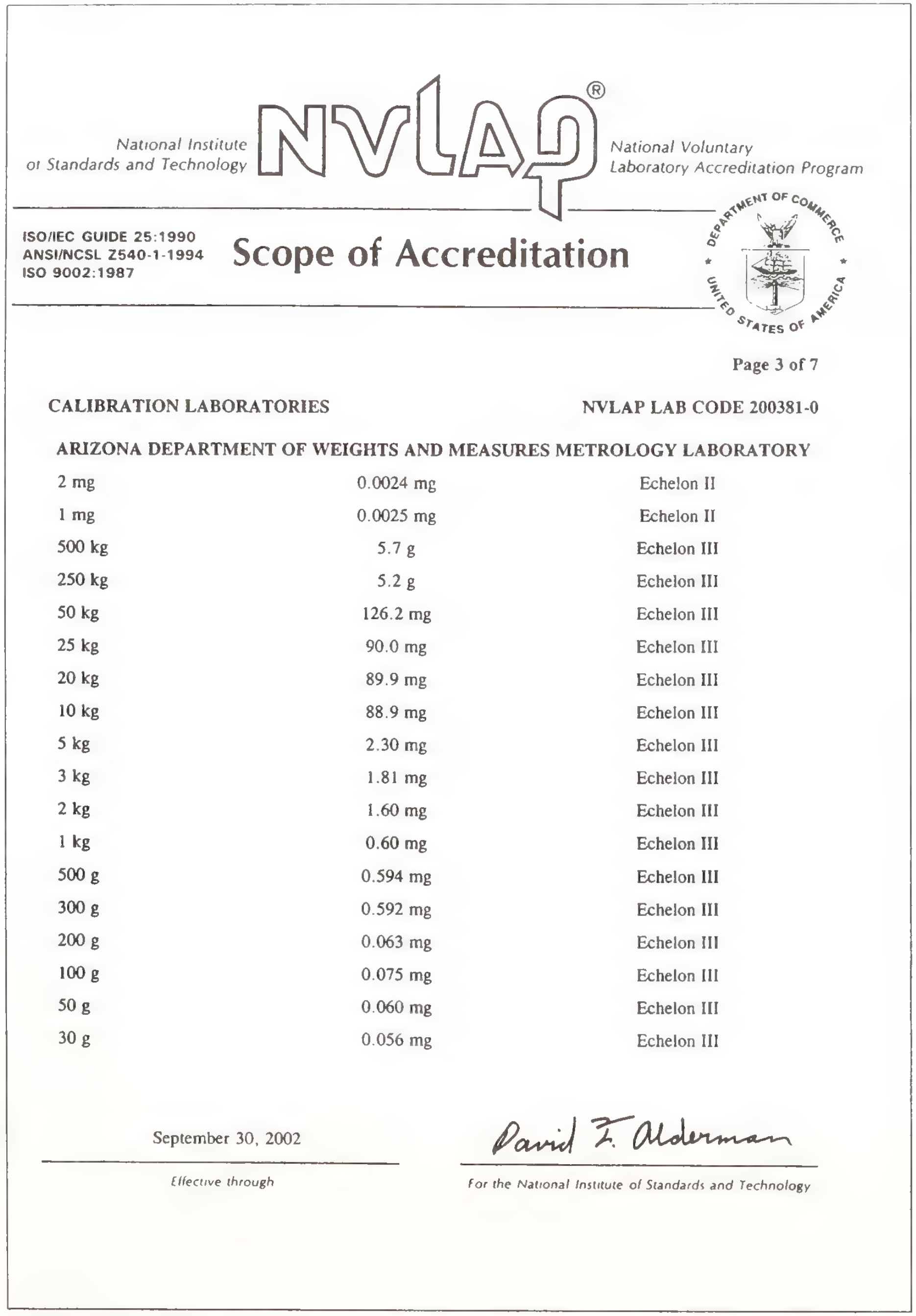

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ARIZONA DEPARTMENT OF WEIGHTS AND MEASURES METROLOGY LABORATORY

2 mg	0.0024 mg	Echelon II
1 mg	0.0025 mg	Echelon II
500 kg	5.7 g	Echelon III
250 kg	5.2 g	Echelon III
50 kg	126.2 mg	Echelon III
25 kg	90.0 mg	Echelon III
20 kg	89.9 mg	Echelon III
10 kg	88.9 mg	Echelon III
5 kg	2.30 mg	Echelon III
3 kg	1.81 mg	Echelon III
2 kg	1.60 mg	Echelon III
1 kg	0.60 mg	Echelon III
500 g	0.594 mg	Echelon III
300 g	0.592 mg	Echelon III
200 g	0.063 mg	Echelon III
100 g	0.075 mg	Echelon III
50 g	0.060 mg	Echelon III
30 g	0.056 mg	Echelon III

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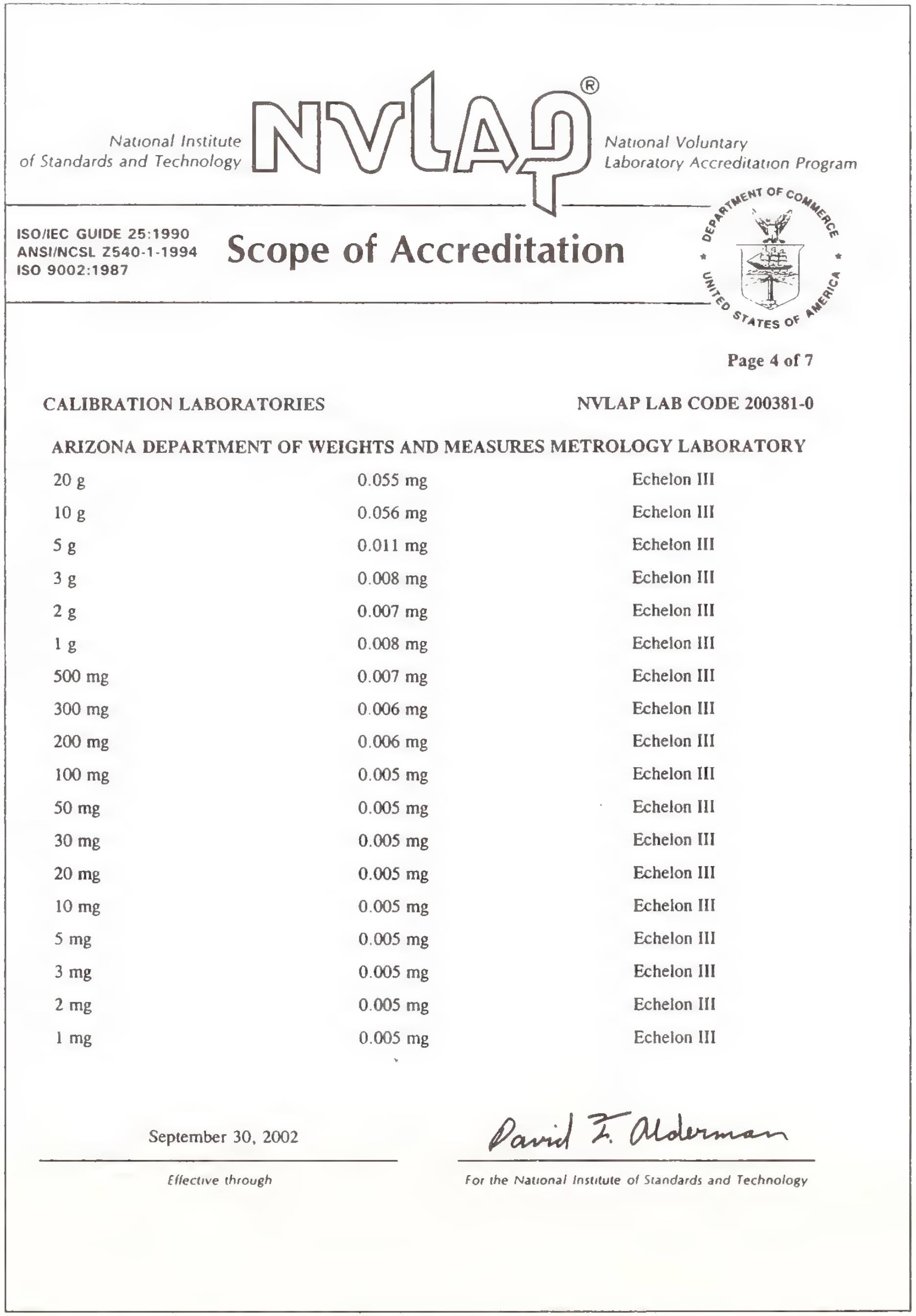

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ARIZONA DEPARTMENT OF WEIGHTS AND MEASURES METROLOGY LABORATORY

20 g	0.055 mg	Echelon III
10 g	0.056 mg	Echelon III
5 g	0.011 mg	Echelon III
3 g	0.008 mg	Echelon III
2 g	0.007 mg	Echelon III
1 g	0.008 mg	Echelon III
500 mg	0.007 mg	Echelon III
300 mg	0.006 mg	Echelon III
200 mg	0.006 mg	Echelon III
100 mg	0.005 mg	Echelon III
50 mg	0.005 mg	Echelon III
30 mg	0.005 mg	Echelon III
20 mg	0.005 mg	Echelon III
10 mg	0.005 mg	Echelon III
5 mg	0.005 mg	Echelon III
3 mg	0.005 mg	Echelon III
2 mg	0.005 mg	Echelon III
1 mg	0.005 mg	Echelon III

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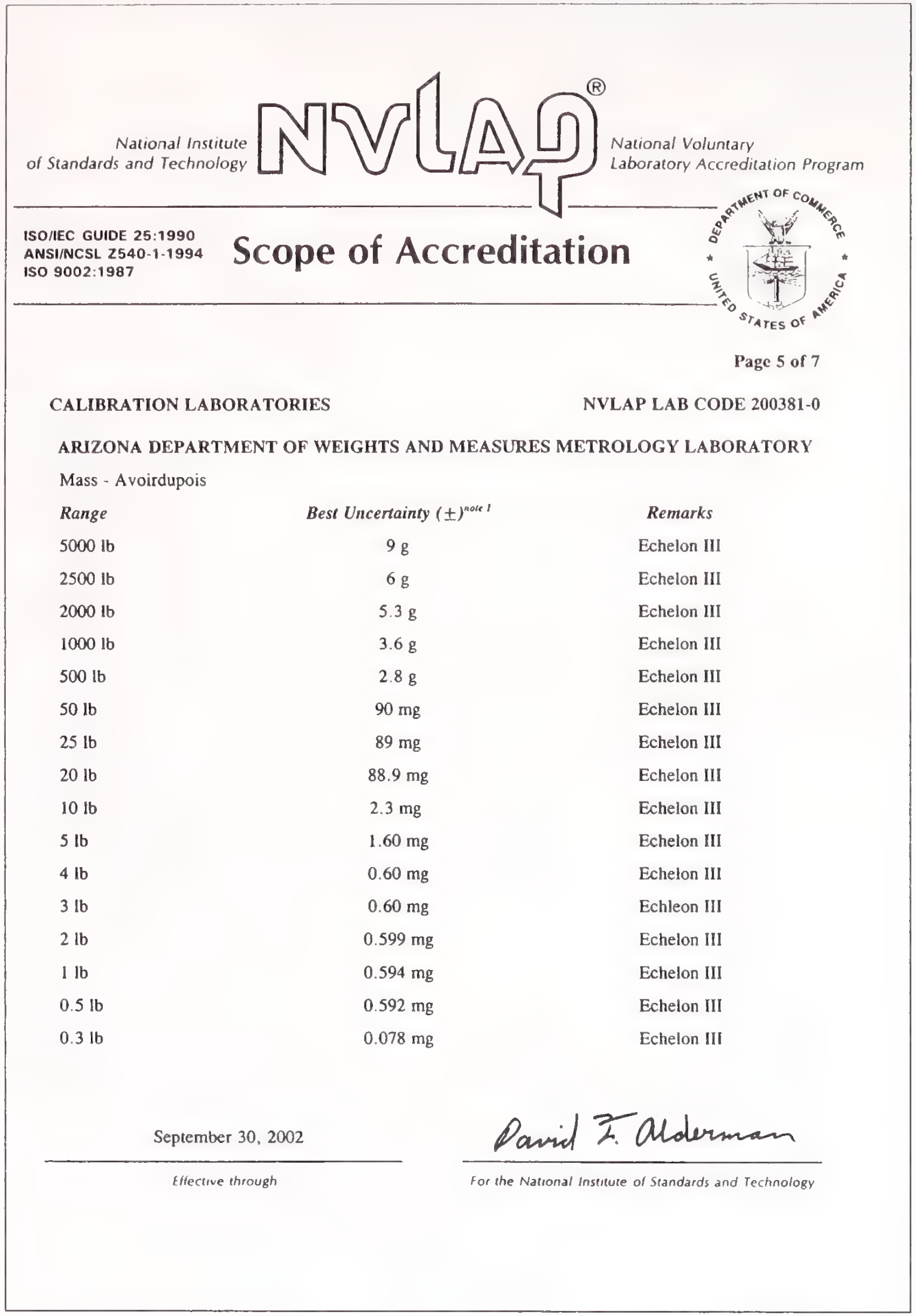

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ARIZONA DEPARTMENT OF WEIGHTS AND MEASURES METROLOGY LABORATORY

Mass - Avoirdupois

Range	*Best Uncertainty* $(\pm)^{note\ 1}$	*Remarks*
5000 lb	9 g	Echelon III
2500 lb	6 g	Echelon III
2000 lb	5.3 g	Echelon III
1000 lb	3.6 g	Echelon III
500 lb	2.8 g	Echelon III
50 lb	90 mg	Echelon III
25 lb	89 mg	Echelon III
20 lb	88.9 mg	Echelon III
10 lb	2.3 mg	Echelon III
5 lb	1.60 mg	Echelon III
4 lb	0.60 mg	Echelon III
3 lb	0.60 mg	Echleon III
2 lb	0.599 mg	Echelon III
1 lb	0.594 mg	Echelon III
0.5 lb	0.592 mg	Echelon III
0.3 lb	0.078 mg	Echelon III

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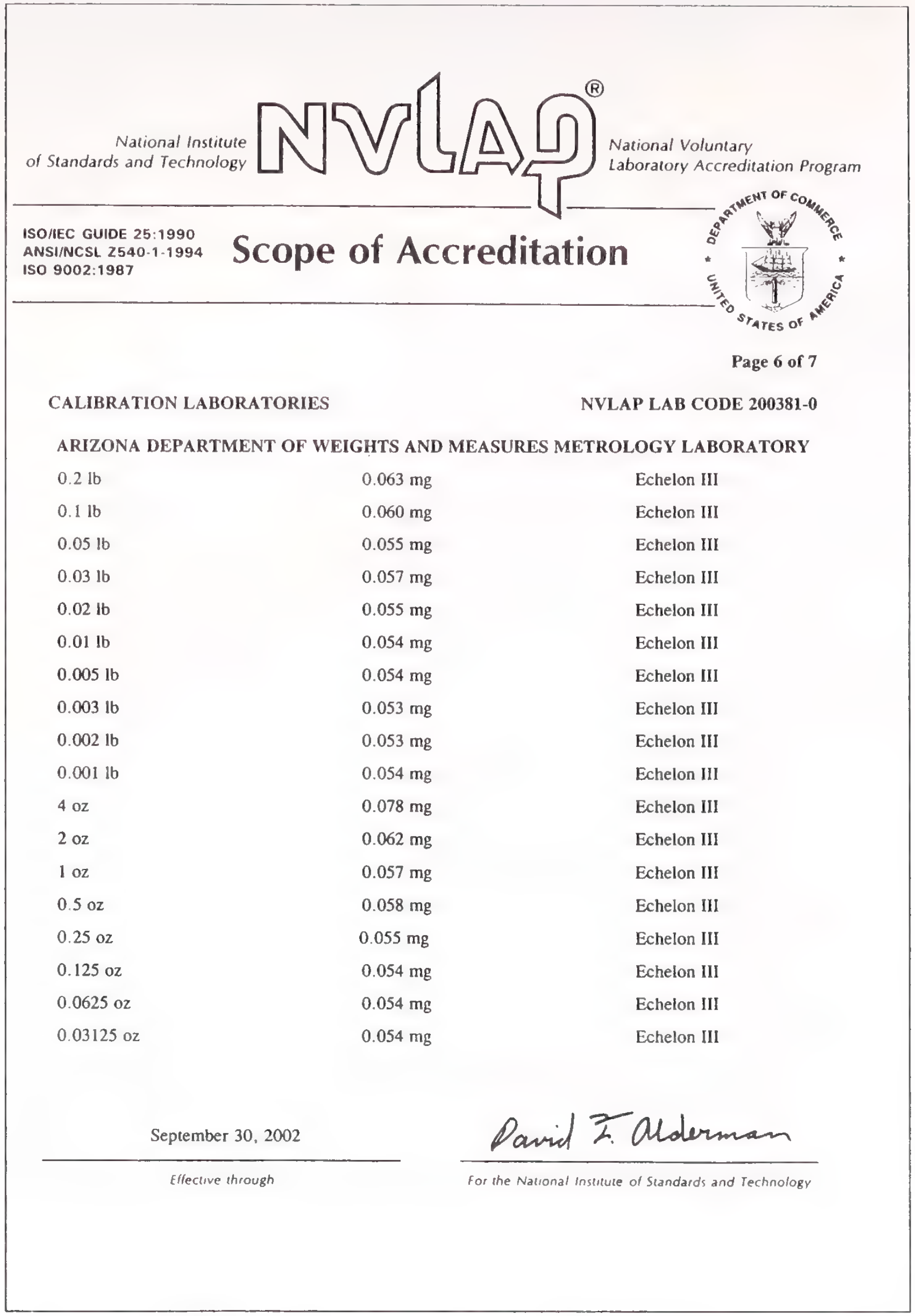

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ARIZONA DEPARTMENT OF WEIGHTS AND MEASURES METROLOGY LABORATORY

0.2 lb	0.063 mg	Echelon III
0.1 lb	0.060 mg	Echelon III
0.05 lb	0.055 mg	Echelon III
0.03 lb	0.057 mg	Echelon III
0.02 lb	0.055 mg	Echelon III
0.01 lb	0.054 mg	Echelon III
0.005 lb	0.054 mg	Echelon III
0.003 lb	0.053 mg	Echelon III
0.002 lb	0.053 mg	Echelon III
0.001 lb	0.054 mg	Echelon III
4 oz	0.078 mg	Echelon III
2 oz	0.062 mg	Echelon III
1 oz	0.057 mg	Echelon III
0.5 oz	0.058 mg	Echelon III
0.25 oz	0.055 mg	Echelon III
0.125 oz	0.054 mg	Echelon III
0.0625 oz	0.054 mg	Echelon III
0.03125 oz	0.054 mg	Echelon III

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ARIZONA DEPARTMENT OF WEIGHTS AND MEASURES METROLOGY LABORATORY

NVLAP Code: 20/M12
Volume

Range	*Best Uncertainty (±)*[note 1]	*Remarks*
1 gal	0.416 in^3	Small Volume Volumetric
5 gal	0.554 in^3	Small Volume Volumetric
20 gal	1.11 in^3	Large Volume Volumetric
25 gal	1.24 in^3	Large Volume Volumetric
50 gal	1.76 in^3	Large Volume Volumetric
100 gal	4.72 in^3	Large Volume Volumetric
200 gal	6.68 in^3	Large Volume Volumetric
500 gal	10.57 in^3	Large Volume Volumetric
1000 gal	14.93 in^3	Large Volume Volumetric
1500 gal	18.30 in^3	Large Volume Volumetric
20 gal	1.11 in^3	LPG Volumetric
100 gal	4.72 in^3	LPG Volumetric

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1. Represents an expanded uncertainty using a coverage factor, k=2.

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CALIBRATION LABORATORIES

NVLAP LAB CODE 200396-0

OKLAHOMA BUREAU OF STANDARDS
2800 North Lincoln Boulevard
Oklahoma City, OK 73105-4298
Mr. Ken Fraley
Phone: 405-522-5459 Fax: 405-521-4912
E-Mail: kfraley@oda.state.ok.us
URL: http://www.state.ok.us/~okag/bos.htm

DIMENSIONAL

NVLAP Code: 20/D13
Surveying Rods and Tapes

Interval in inches	*Best Uncertainty (±) in inches*[note 1]	*Remarks*
0 to 12	0.00230	Rigid Rules
0 to 24	0.00297	Rigid Rules
0 to 36	0.00351	Rigid Rules
0 to 48	0.00398	Rigid Rules

Tape Interval in feet	*Best Uncertainty (±) in inches*[note 1]	*Remarks*
0 to 1	0.0037	Steel Tapes
0 to 2	0.0038	Steel Tapes
0 to 3	0.0038	Steel Tapes
0 to 4	0.0038	Steel Tapes

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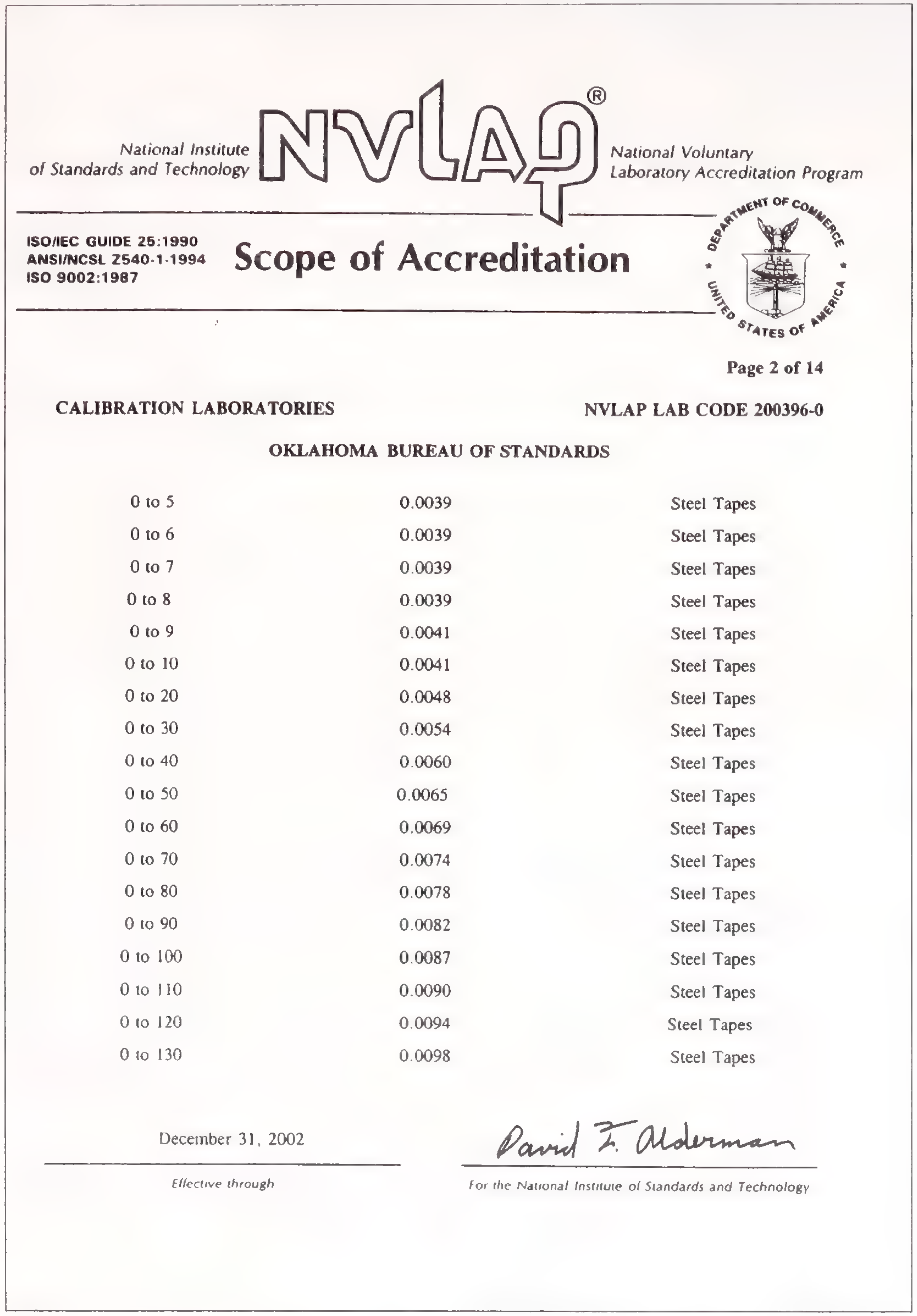

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OKLAHOMA BUREAU OF STANDARDS

0 to 5	0.0039	Steel Tapes
0 to 6	0.0039	Steel Tapes
0 to 7	0.0039	Steel Tapes
0 to 8	0.0039	Steel Tapes
0 to 9	0.0041	Steel Tapes
0 to 10	0.0041	Steel Tapes
0 to 20	0.0048	Steel Tapes
0 to 30	0.0054	Steel Tapes
0 to 40	0.0060	Steel Tapes
0 to 50	0.0065	Steel Tapes
0 to 60	0.0069	Steel Tapes
0 to 70	0.0074	Steel Tapes
0 to 80	0.0078	Steel Tapes
0 to 90	0.0082	Steel Tapes
0 to 100	0.0087	Steel Tapes
0 to 110	0.0090	Steel Tapes
0 to 120	0.0094	Steel Tapes
0 to 130	0.0098	Steel Tapes

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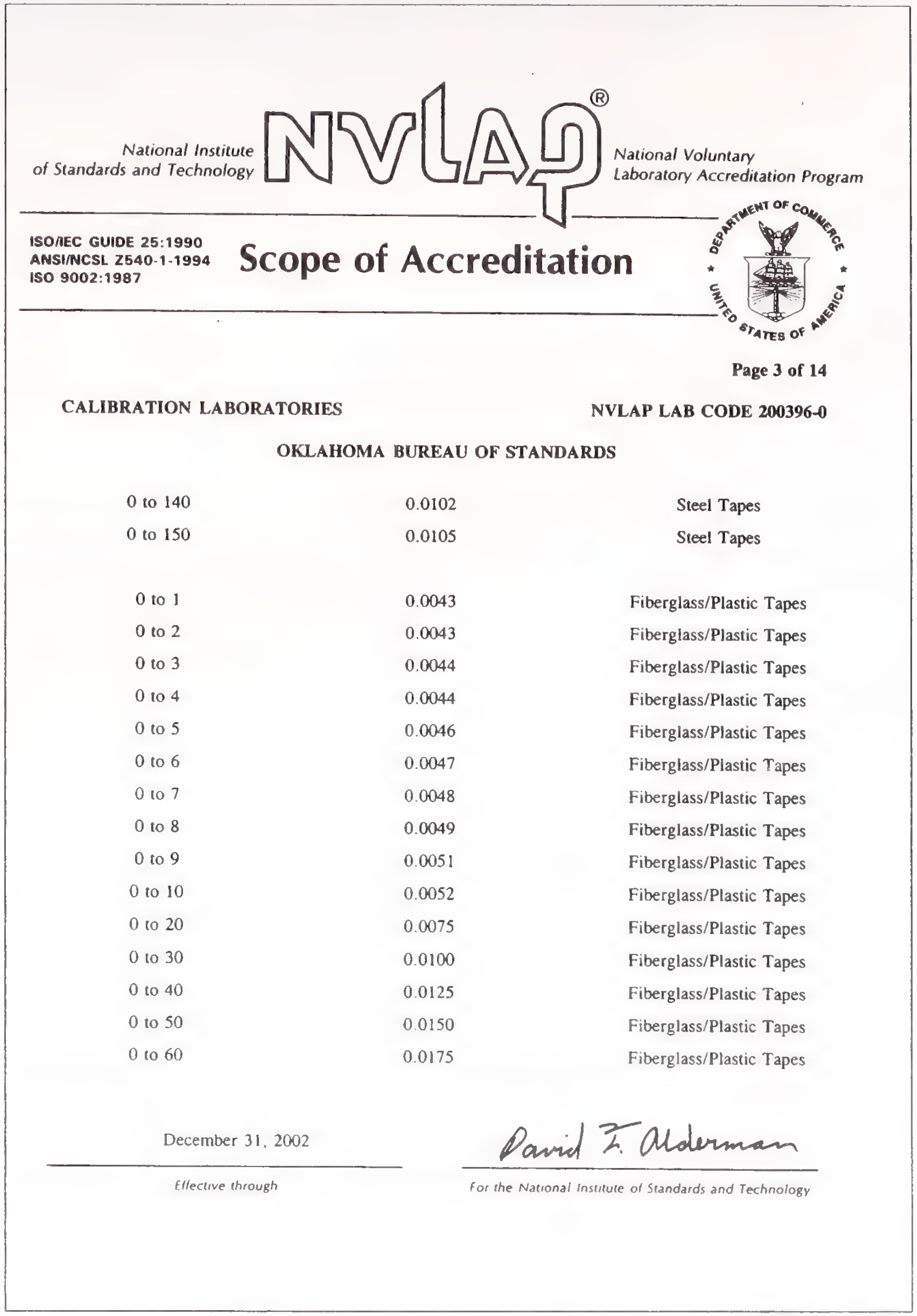

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OKLAHOMA BUREAU OF STANDARDS

0 to 140	0.0102	Steel Tapes
0 to 150	0.0105	Steel Tapes
0 to 1	0.0043	Fiberglass/Plastic Tapes
0 to 2	0.0043	Fiberglass/Plastic Tapes
0 to 3	0.0044	Fiberglass/Plastic Tapes
0 to 4	0.0044	Fiberglass/Plastic Tapes
0 to 5	0.0046	Fiberglass/Plastic Tapes
0 to 6	0.0047	Fiberglass/Plastic Tapes
0 to 7	0.0048	Fiberglass/Plastic Tapes
0 to 8	0.0049	Fiberglass/Plastic Tapes
0 to 9	0.0051	Fiberglass/Plastic Tapes
0 to 10	0.0052	Fiberglass/Plastic Tapes
0 to 20	0.0075	Fiberglass/Plastic Tapes
0 to 30	0.0100	Fiberglass/Plastic Tapes
0 to 40	0.0125	Fiberglass/Plastic Tapes
0 to 50	0.0150	Fiberglass/Plastic Tapes
0 to 60	0.0175	Fiberglass/Plastic Tapes

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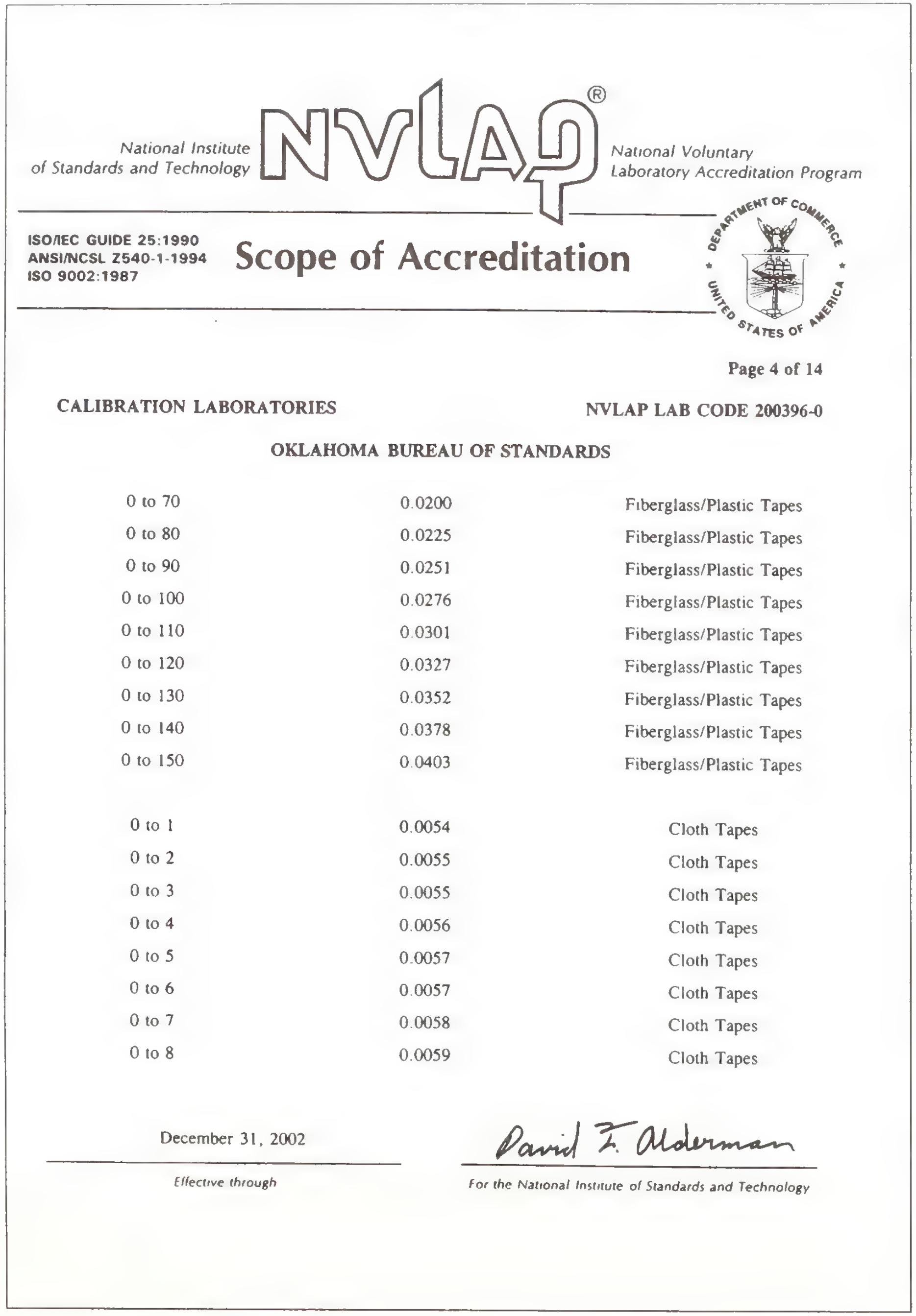

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OKLAHOMA BUREAU OF STANDARDS

0 to 70	0.0200	Fiberglass/Plastic Tapes
0 to 80	0.0225	Fiberglass/Plastic Tapes
0 to 90	0.0251	Fiberglass/Plastic Tapes
0 to 100	0.0276	Fiberglass/Plastic Tapes
0 to 110	0.0301	Fiberglass/Plastic Tapes
0 to 120	0.0327	Fiberglass/Plastic Tapes
0 to 130	0.0352	Fiberglass/Plastic Tapes
0 to 140	0.0378	Fiberglass/Plastic Tapes
0 to 150	0.0403	Fiberglass/Plastic Tapes
0 to 1	0.0054	Cloth Tapes
0 to 2	0.0055	Cloth Tapes
0 to 3	0.0055	Cloth Tapes
0 to 4	0.0056	Cloth Tapes
0 to 5	0.0057	Cloth Tapes
0 to 6	0.0057	Cloth Tapes
0 to 7	0.0058	Cloth Tapes
0 to 8	0.0059	Cloth Tapes

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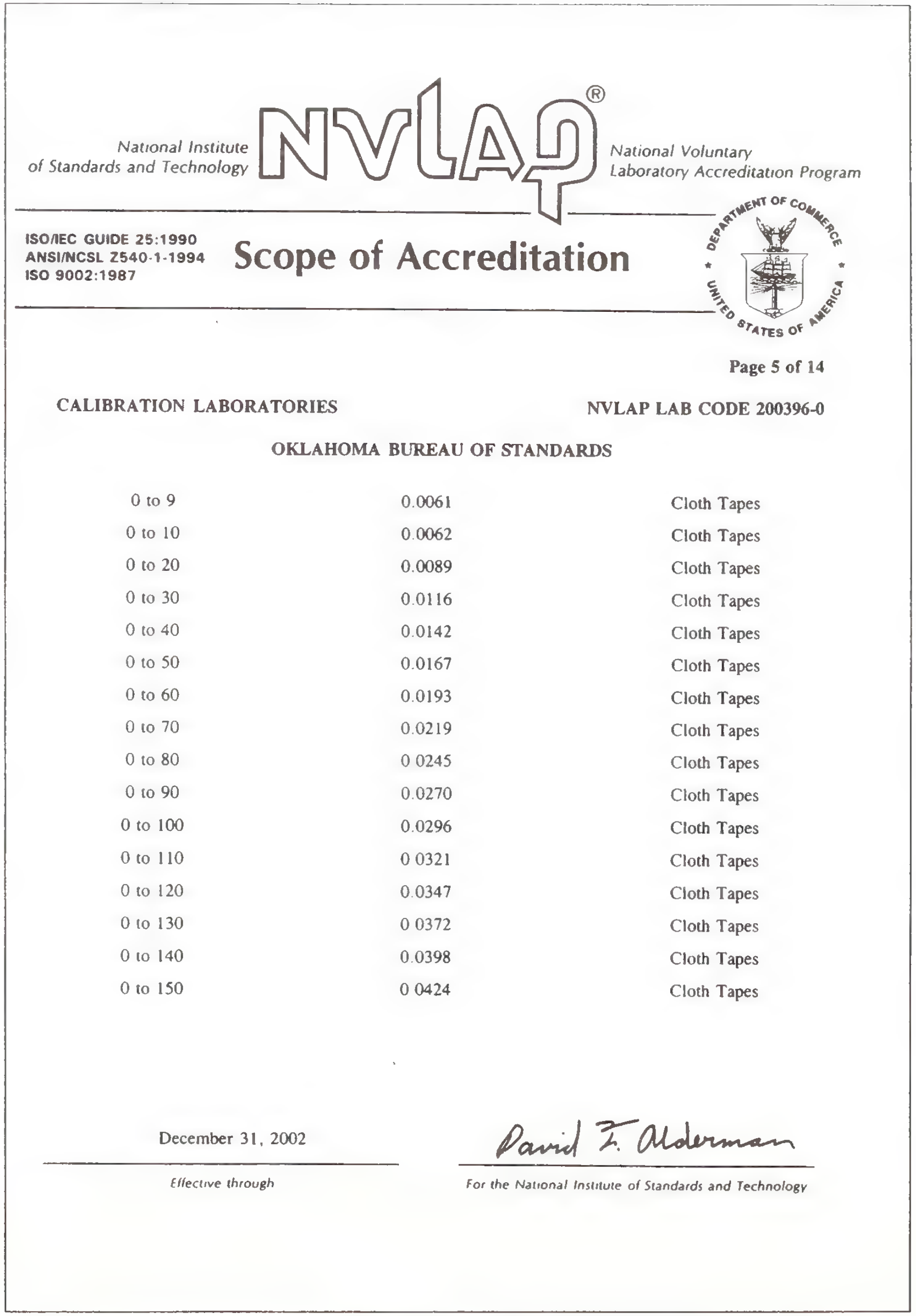

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OKLAHOMA BUREAU OF STANDARDS

0 to 9	0.0061	Cloth Tapes
0 to 10	0.0062	Cloth Tapes
0 to 20	0.0089	Cloth Tapes
0 to 30	0.0116	Cloth Tapes
0 to 40	0.0142	Cloth Tapes
0 to 50	0.0167	Cloth Tapes
0 to 60	0.0193	Cloth Tapes
0 to 70	0.0219	Cloth Tapes
0 to 80	0.0245	Cloth Tapes
0 to 90	0.0270	Cloth Tapes
0 to 100	0.0296	Cloth Tapes
0 to 110	0.0321	Cloth Tapes
0 to 120	0.0347	Cloth Tapes
0 to 130	0.0372	Cloth Tapes
0 to 140	0.0398	Cloth Tapes
0 to 150	0.0424	Cloth Tapes

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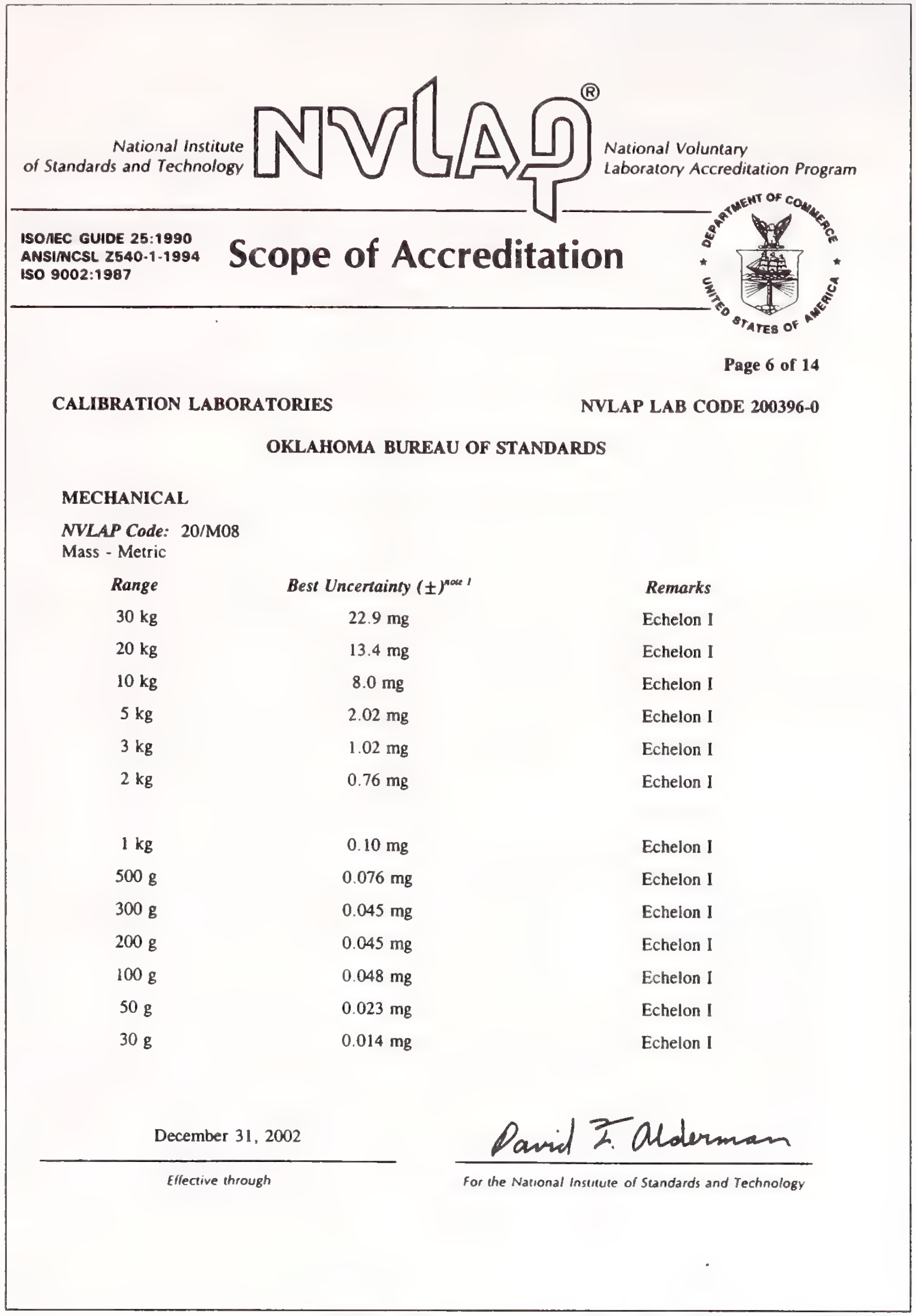

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OKLAHOMA BUREAU OF STANDARDS

MECHANICAL

NVLAP Code: 20/M08
Mass - Metric

Range	*Best Uncertainty* (±)$^{note\ 1}$	*Remarks*
30 kg	22.9 mg	Echelon I
20 kg	13.4 mg	Echelon I
10 kg	8.0 mg	Echelon I
5 kg	2.02 mg	Echelon I
3 kg	1.02 mg	Echelon I
2 kg	0.76 mg	Echelon I
1 kg	0.10 mg	Echelon I
500 g	0.076 mg	Echelon I
300 g	0.045 mg	Echelon I
200 g	0.045 mg	Echelon I
100 g	0.048 mg	Echelon I
50 g	0.023 mg	Echelon I
30 g	0.014 mg	Echelon I

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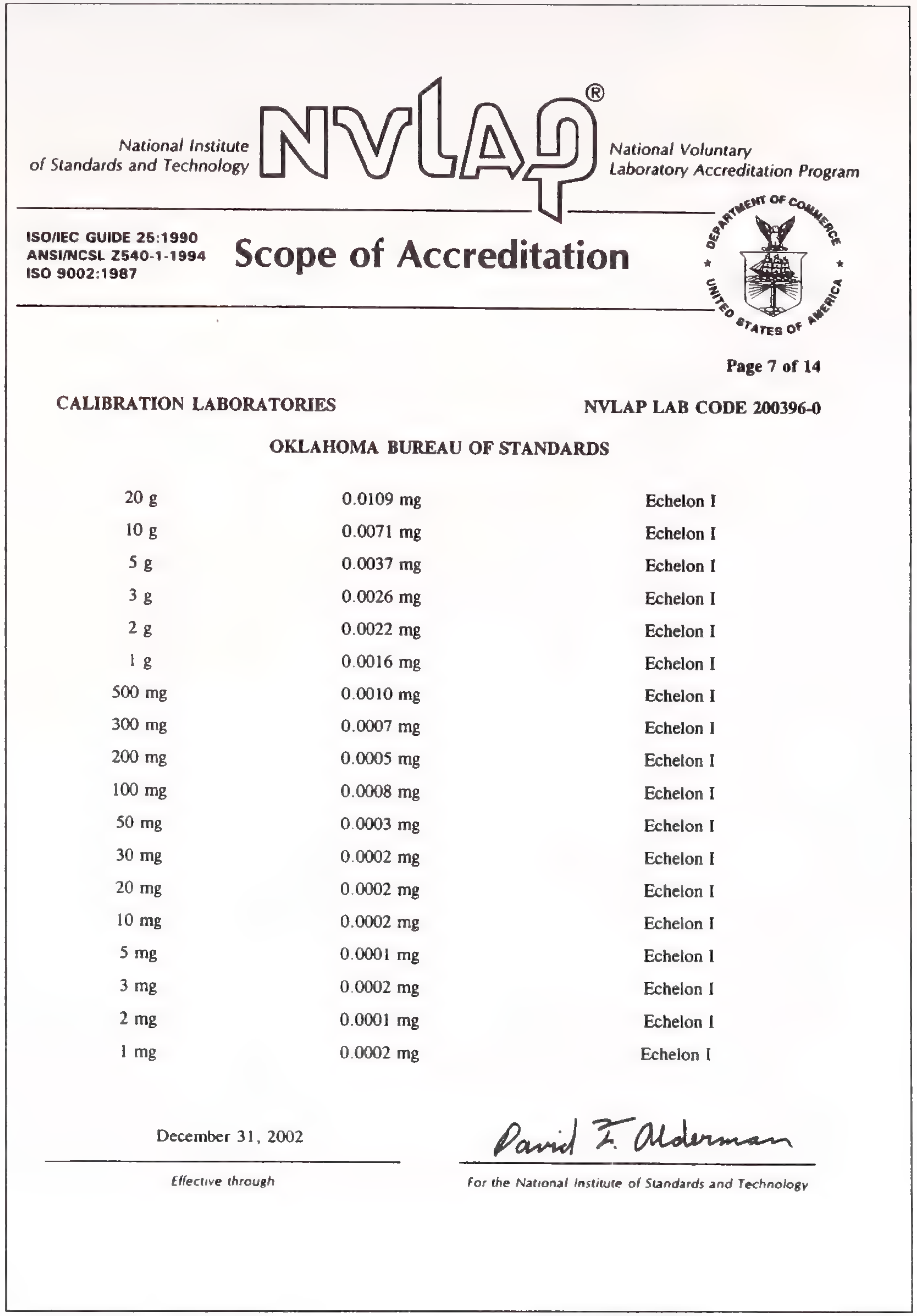

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OKLAHOMA BUREAU OF STANDARDS

20 g	0.0109 mg	Echelon I
10 g	0.0071 mg	Echelon I
5 g	0.0037 mg	Echelon I
3 g	0.0026 mg	Echelon I
2 g	0.0022 mg	Echelon I
1 g	0.0016 mg	Echelon I
500 mg	0.0010 mg	Echelon I
300 mg	0.0007 mg	Echelon I
200 mg	0.0005 mg	Echelon I
100 mg	0.0008 mg	Echelon I
50 mg	0.0003 mg	Echelon I
30 mg	0.0002 mg	Echelon I
20 mg	0.0002 mg	Echelon I
10 mg	0.0002 mg	Echelon I
5 mg	0.0001 mg	Echelon I
3 mg	0.0002 mg	Echelon I
2 mg	0.0001 mg	Echelon I
1 mg	0.0002 mg	Echelon I

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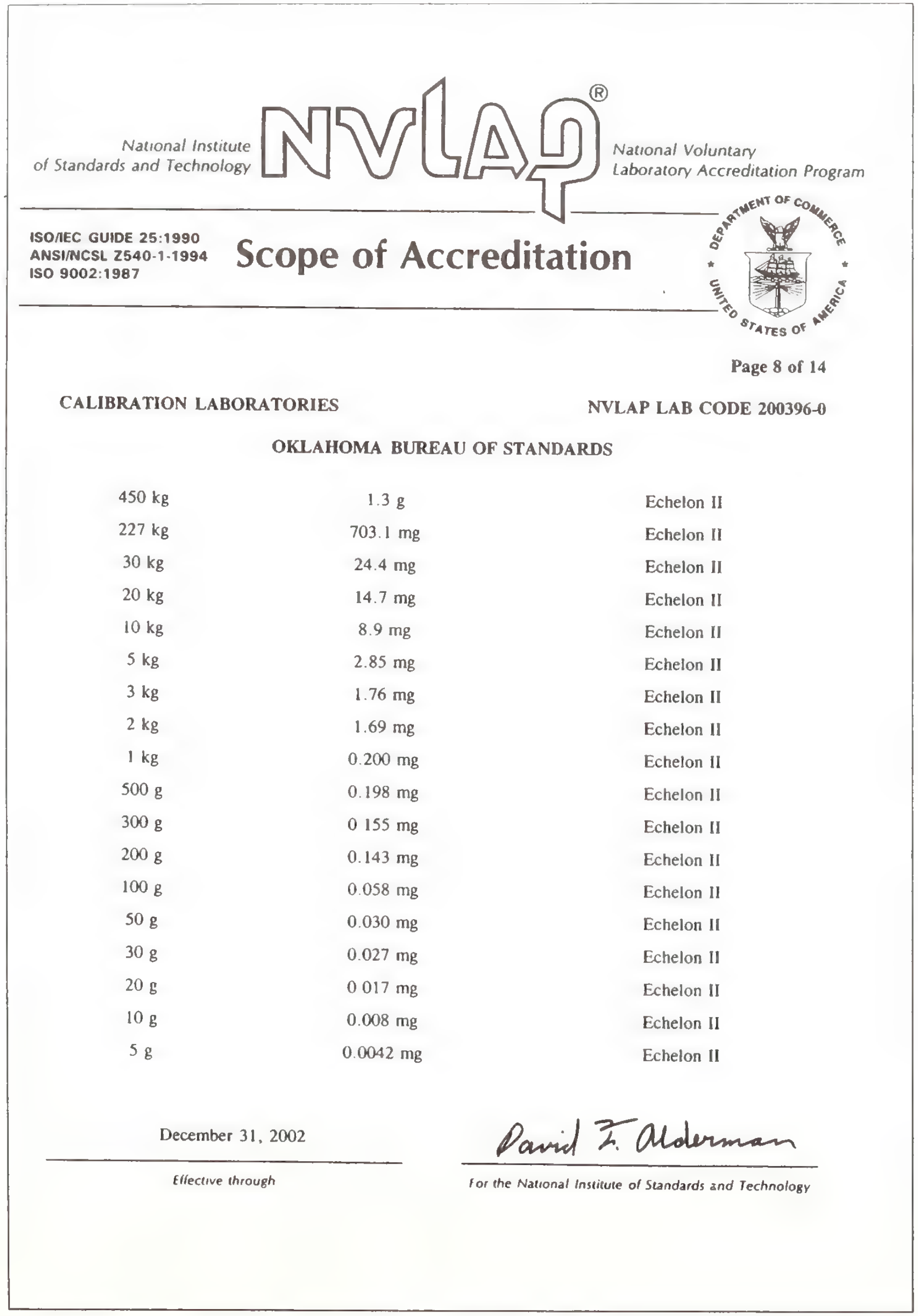

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OKLAHOMA BUREAU OF STANDARDS

450 kg	1.3 g	Echelon II
227 kg	703.1 mg	Echelon II
30 kg	24.4 mg	Echelon II
20 kg	14.7 mg	Echelon II
10 kg	8.9 mg	Echelon II
5 kg	2.85 mg	Echelon II
3 kg	1.76 mg	Echelon II
2 kg	1.69 mg	Echelon II
1 kg	0.200 mg	Echelon II
500 g	0.198 mg	Echelon II
300 g	0.155 mg	Echelon II
200 g	0.143 mg	Echelon II
100 g	0.058 mg	Echelon II
50 g	0.030 mg	Echelon II
30 g	0.027 mg	Echelon II
20 g	0.017 mg	Echelon II
10 g	0.008 mg	Echelon II
5 g	0.0042 mg	Echelon II

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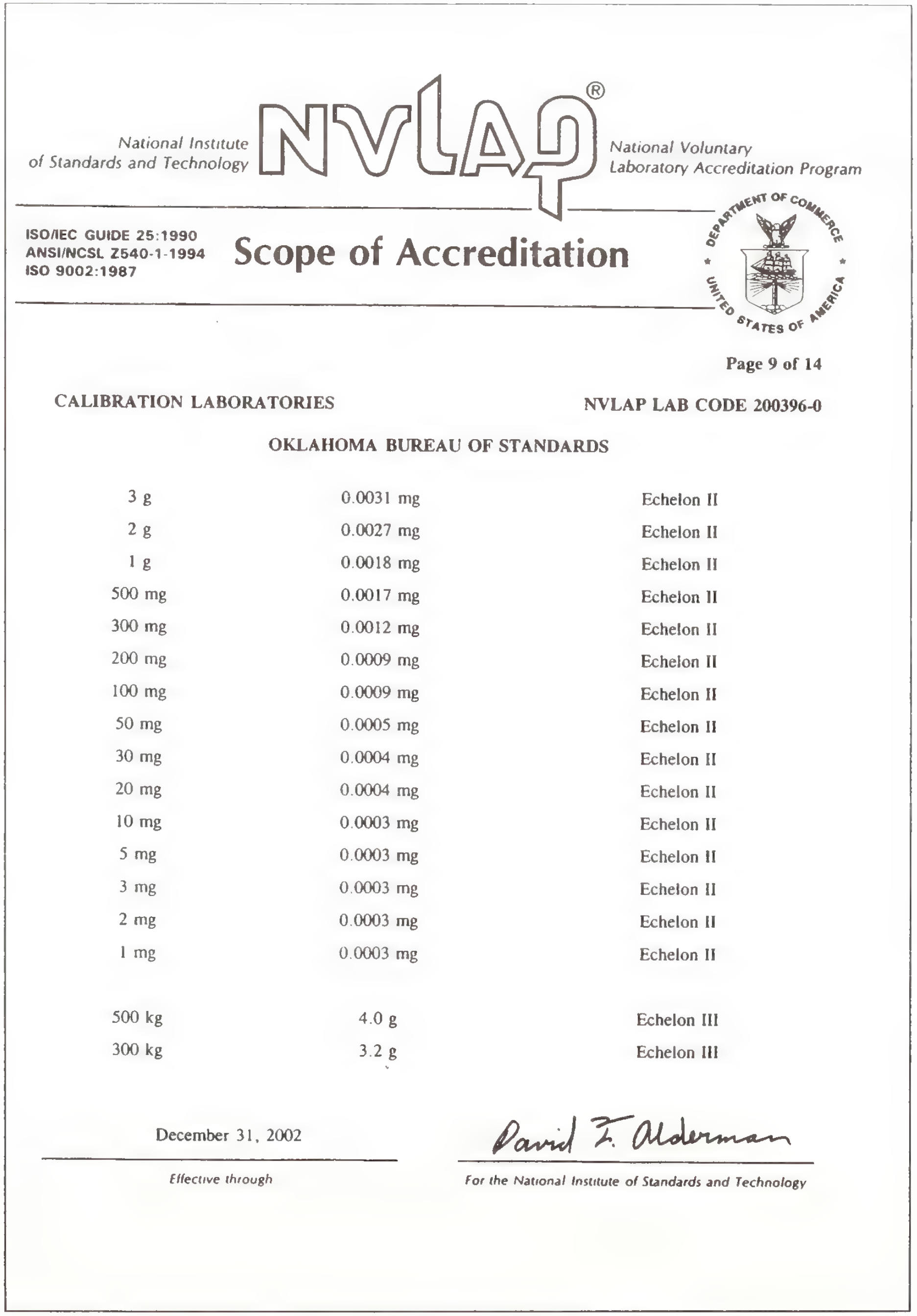

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OKLAHOMA BUREAU OF STANDARDS

3 g	0.0031 mg	Echelon II
2 g	0.0027 mg	Echelon II
1 g	0.0018 mg	Echelon II
500 mg	0.0017 mg	Echelon II
300 mg	0.0012 mg	Echelon II
200 mg	0.0009 mg	Echelon II
100 mg	0.0009 mg	Echelon II
50 mg	0.0005 mg	Echelon II
30 mg	0.0004 mg	Echelon II
20 mg	0.0004 mg	Echelon II
10 mg	0.0003 mg	Echelon II
5 mg	0.0003 mg	Echelon II
3 mg	0.0003 mg	Echelon II
2 mg	0.0003 mg	Echelon II
1 mg	0.0003 mg	Echelon II
500 kg	4.0 g	Echelon III
300 kg	3.2 g	Echelon III

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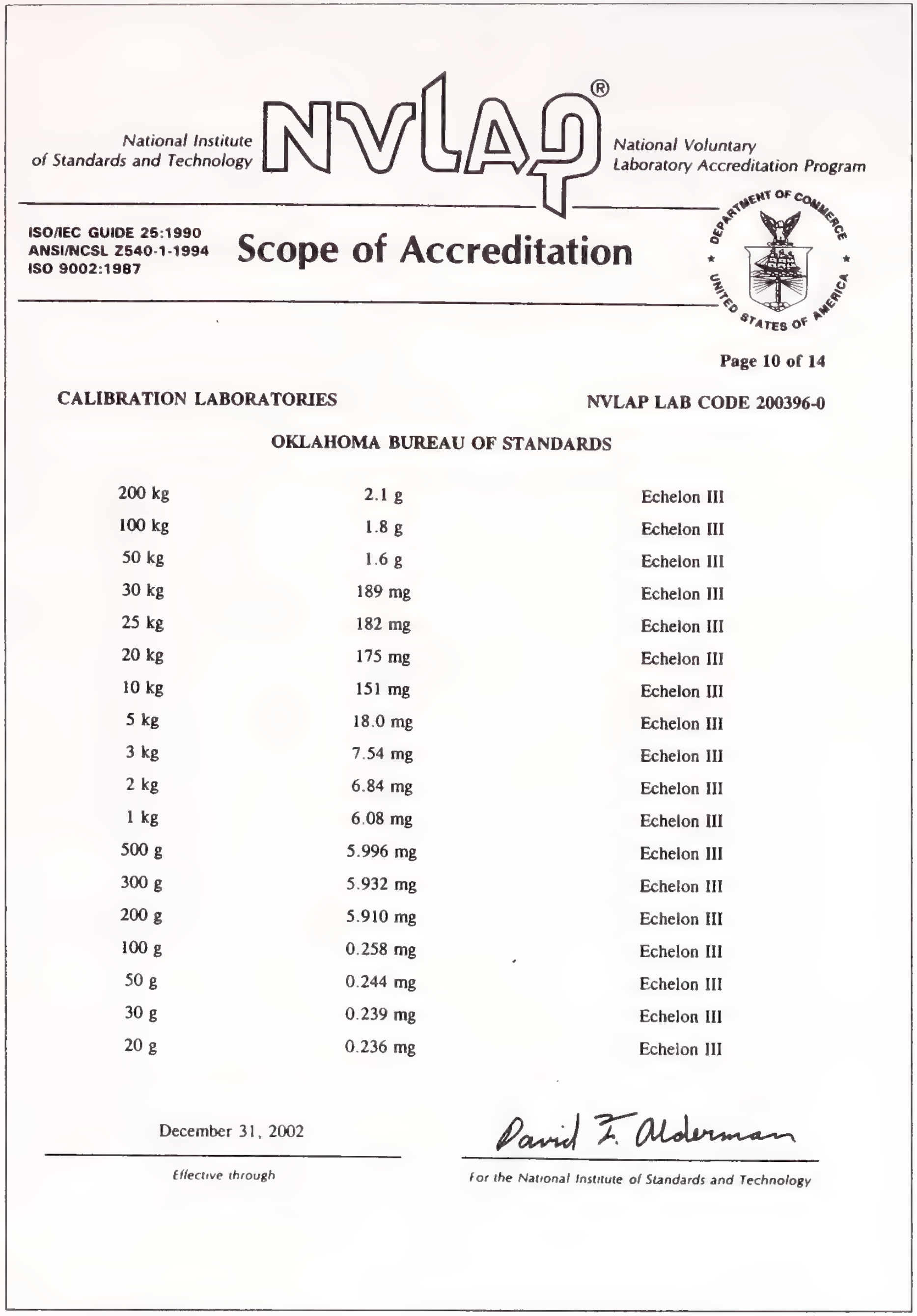

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CALIBRATION LABORATORIES **NVLAP LAB CODE 200396-0**

OKLAHOMA BUREAU OF STANDARDS

200 kg	2.1 g	Echelon III
100 kg	1.8 g	Echelon III
50 kg	1.6 g	Echelon III
30 kg	189 mg	Echelon III
25 kg	182 mg	Echelon III
20 kg	175 mg	Echelon III
10 kg	151 mg	Echelon III
5 kg	18.0 mg	Echelon III
3 kg	7.54 mg	Echelon III
2 kg	6.84 mg	Echelon III
1 kg	6.08 mg	Echelon III
500 g	5.996 mg	Echelon III
300 g	5.932 mg	Echelon III
200 g	5.910 mg	Echelon III
100 g	0.258 mg	Echelon III
50 g	0.244 mg	Echelon III
30 g	0.239 mg	Echelon III
20 g	0.236 mg	Echelon III

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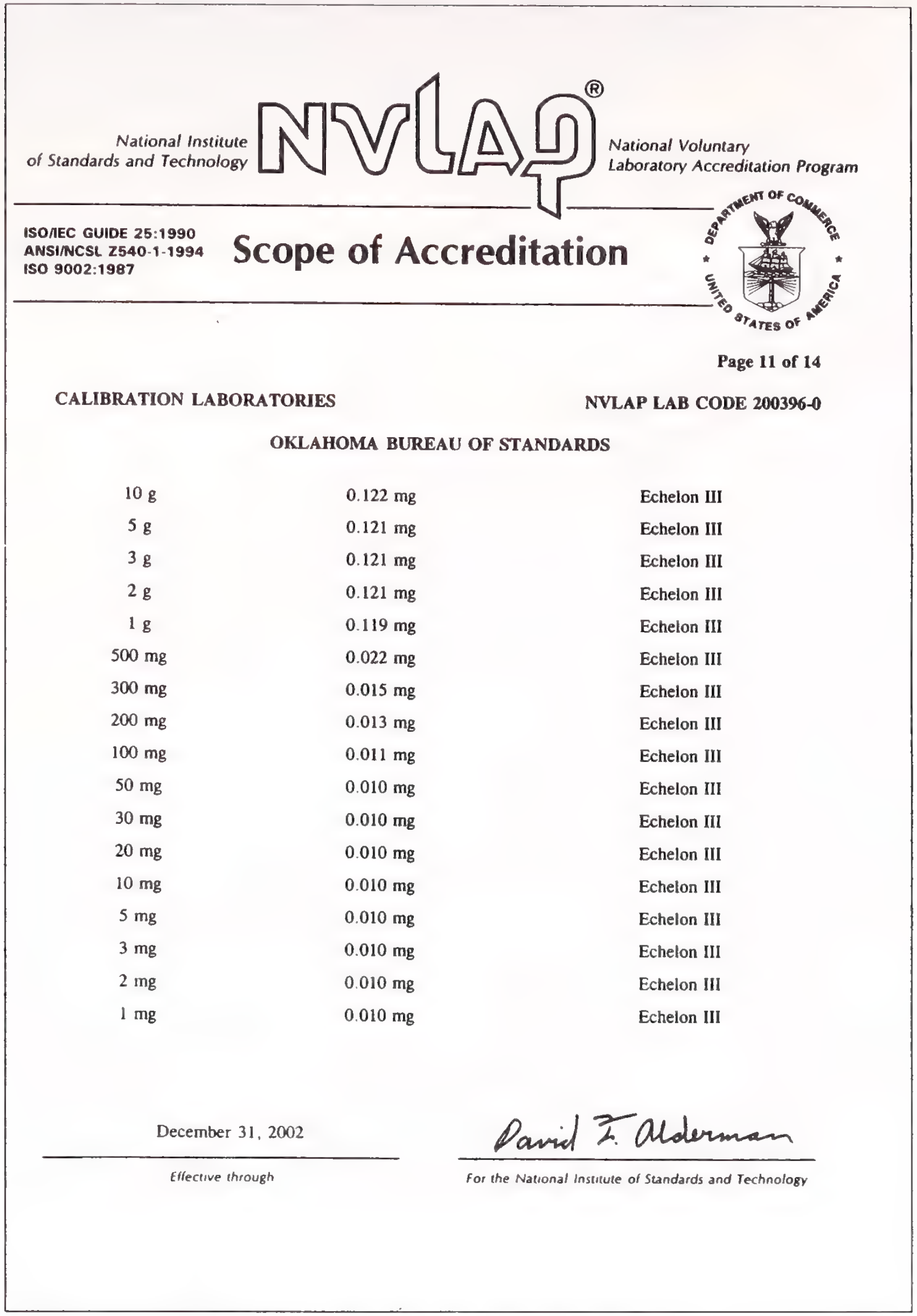

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OKLAHOMA BUREAU OF STANDARDS

10 g	0.122 mg	Echelon III
5 g	0.121 mg	Echelon III
3 g	0.121 mg	Echelon III
2 g	0.121 mg	Echelon III
1 g	0.119 mg	Echelon III
500 mg	0.022 mg	Echelon III
300 mg	0.015 mg	Echelon III
200 mg	0.013 mg	Echelon III
100 mg	0.011 mg	Echelon III
50 mg	0.010 mg	Echelon III
30 mg	0.010 mg	Echelon III
20 mg	0.010 mg	Echelon III
10 mg	0.010 mg	Echelon III
5 mg	0.010 mg	Echelon III
3 mg	0.010 mg	Echelon III
2 mg	0.010 mg	Echelon III
1 mg	0.010 mg	Echelon III

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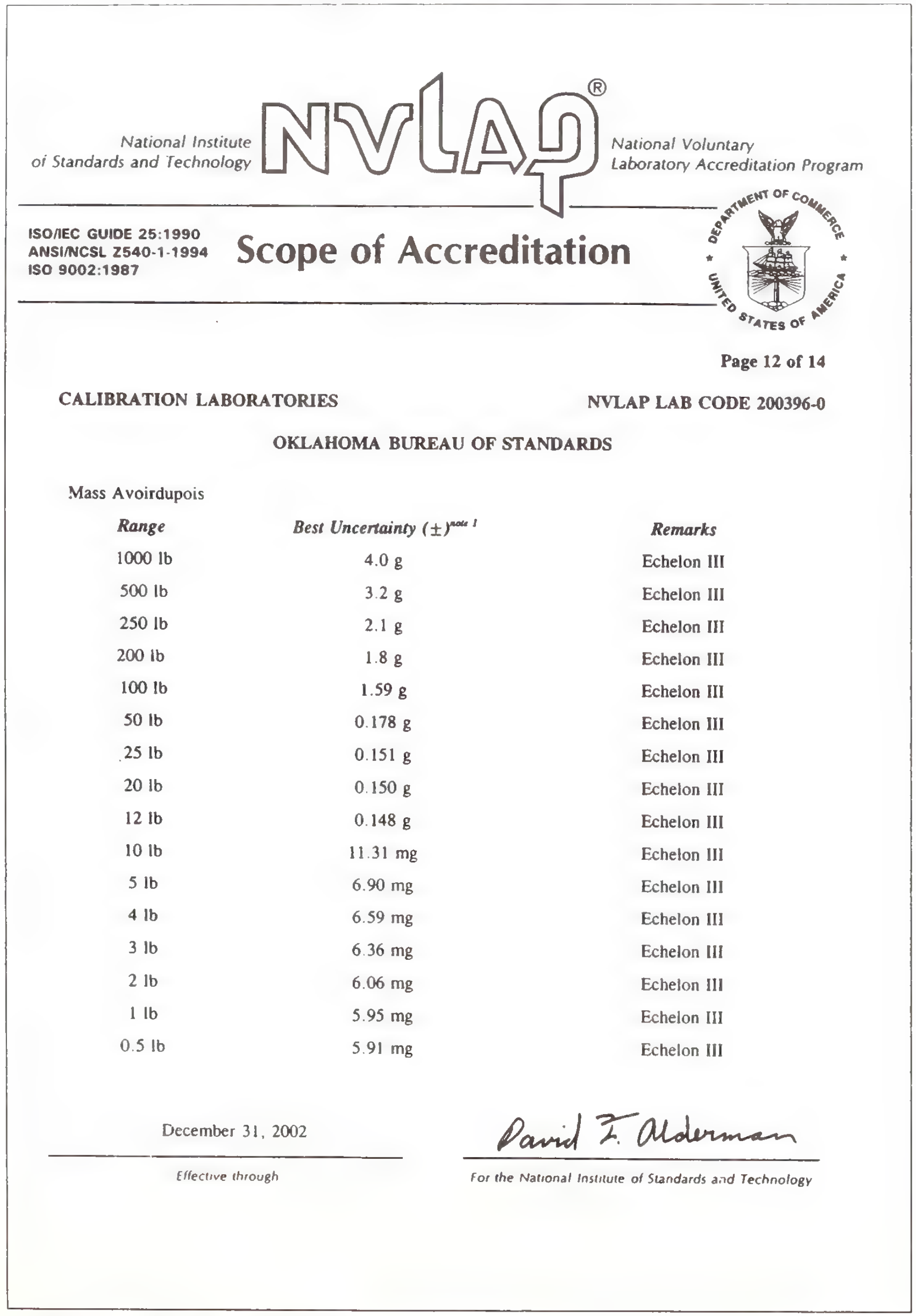

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OKLAHOMA BUREAU OF STANDARDS

Mass Avoirdupois

Range	Best Uncertainty (±)[note 1]	Remarks
1000 lb	4.0 g	Echelon III
500 lb	3.2 g	Echelon III
250 lb	2.1 g	Echelon III
200 lb	1.8 g	Echelon III
100 lb	1.59 g	Echelon III
50 lb	0.178 g	Echelon III
25 lb	0.151 g	Echelon III
20 lb	0.150 g	Echelon III
12 lb	0.148 g	Echelon III
10 lb	11.31 mg	Echelon III
5 lb	6.90 mg	Echelon III
4 lb	6.59 mg	Echelon III
3 lb	6.36 mg	Echelon III
2 lb	6.06 mg	Echelon III
1 lb	5.95 mg	Echelon III
0.5 lb	5.91 mg	Echelon III

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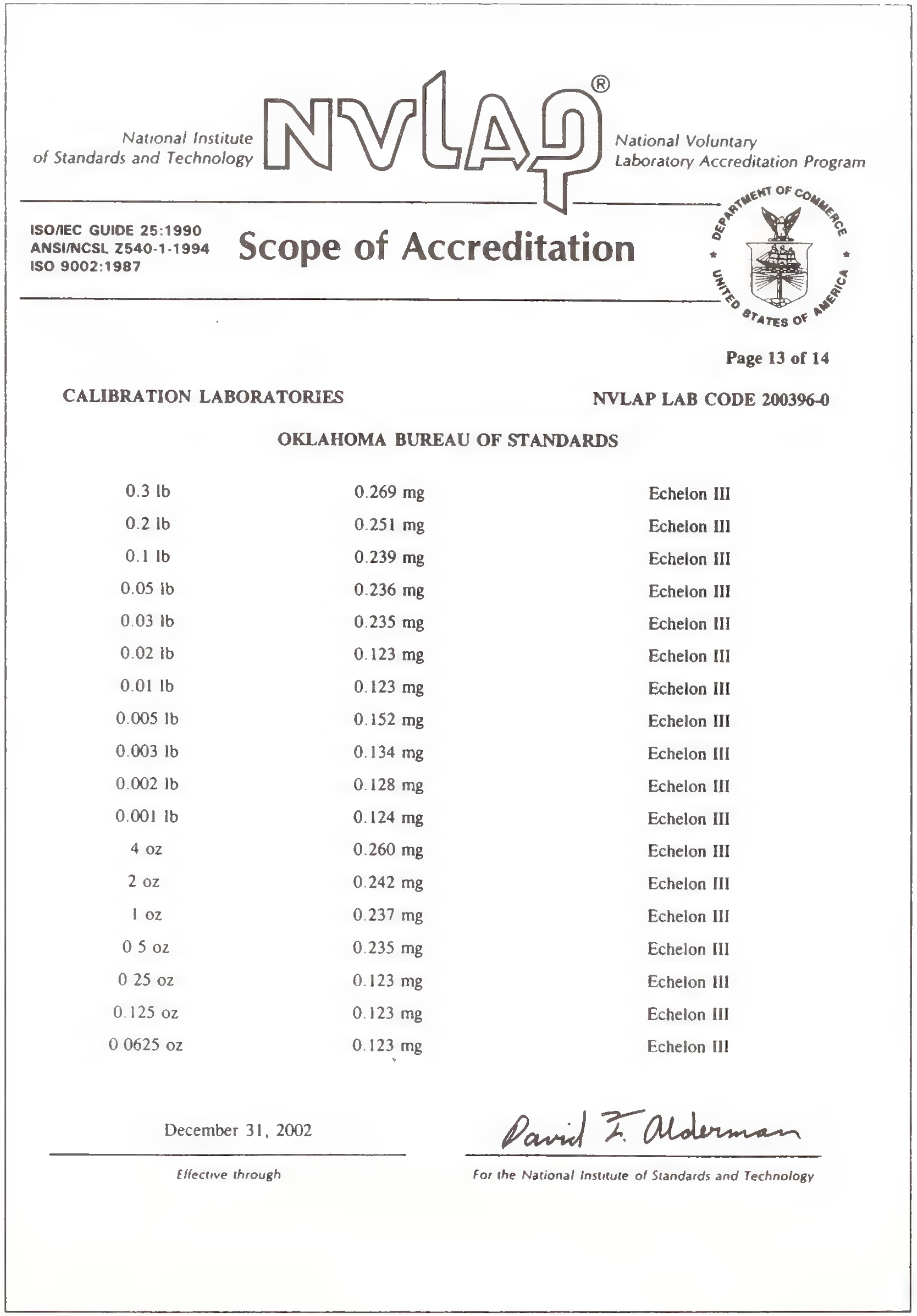

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OKLAHOMA BUREAU OF STANDARDS

0.3 lb	0.269 mg	Echelon III
0.2 lb	0.251 mg	Echelon III
0.1 lb	0.239 mg	Echelon III
0.05 lb	0.236 mg	Echelon III
0.03 lb	0.235 mg	Echelon III
0.02 lb	0.123 mg	Echelon III
0.01 lb	0.123 mg	Echelon III
0.005 lb	0.152 mg	Echelon III
0.003 lb	0.134 mg	Echelon III
0.002 lb	0.128 mg	Echelon III
0.001 lb	0.124 mg	Echelon III
4 oz	0.260 mg	Echelon III
2 oz	0.242 mg	Echelon III
1 oz	0.237 mg	Echelon III
0.5 oz	0.235 mg	Echelon III
0.25 oz	0.123 mg	Echelon III
0.125 oz	0.123 mg	Echelon III
0.0625 oz	0.123 mg	Echelon III

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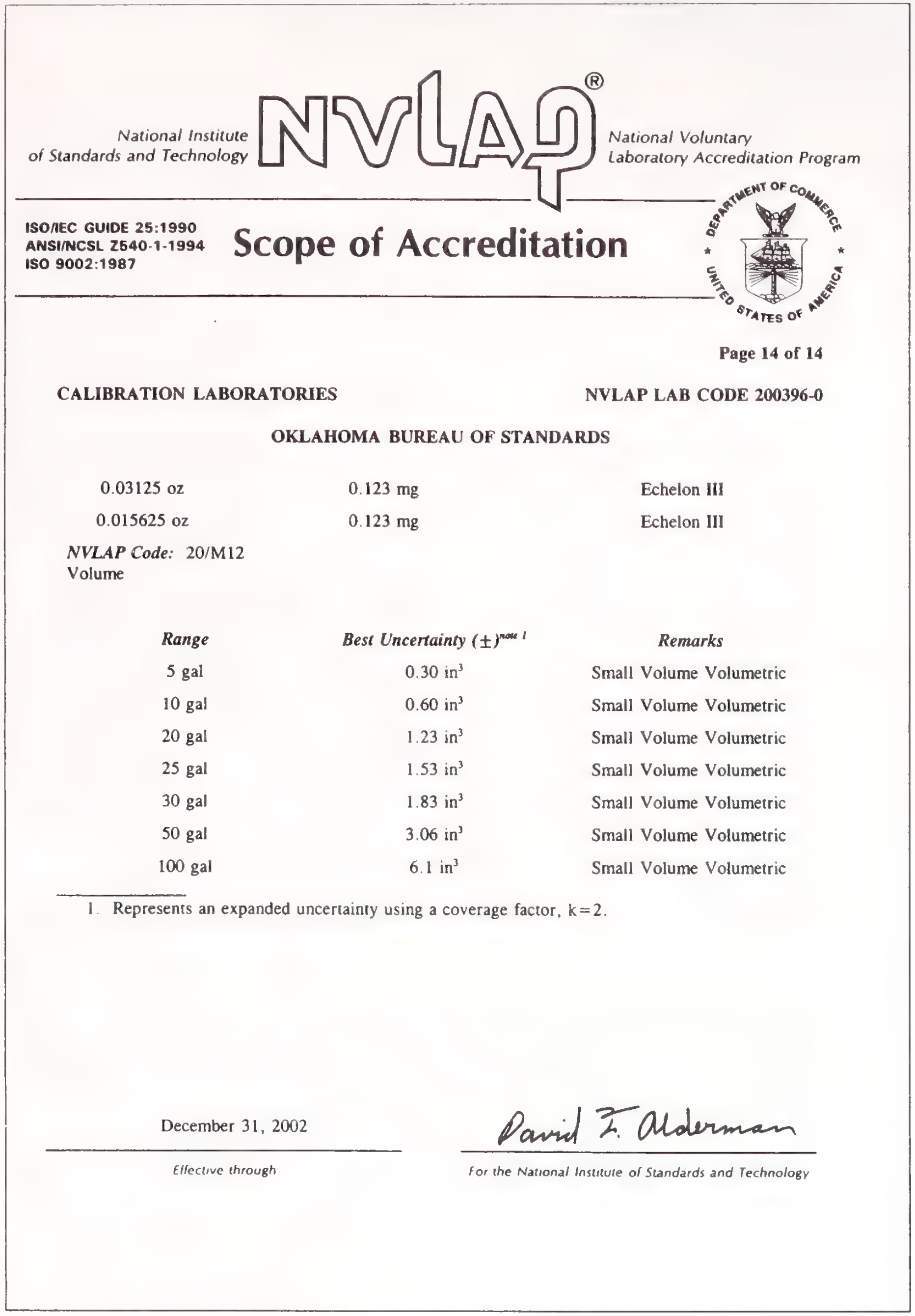

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OKLAHOMA BUREAU OF STANDARDS

0.03125 oz	0.123 mg	Echelon III
0.015625 oz	0.123 mg	Echelon III

NVLAP Code: 20/M12
Volume

Range	*Best Uncertainty* (±)[note 1]	*Remarks*
5 gal	0.30 in^3	Small Volume Volumetric
10 gal	0.60 in^3	Small Volume Volumetric
20 gal	1.23 in^3	Small Volume Volumetric
25 gal	1.53 in^3	Small Volume Volumetric
30 gal	1.83 in^3	Small Volume Volumetric
50 gal	3.06 in^3	Small Volume Volumetric
100 gal	6.1 in^3	Small Volume Volumetric

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1. Represents an expanded uncertainty using a coverage factor, k=2.

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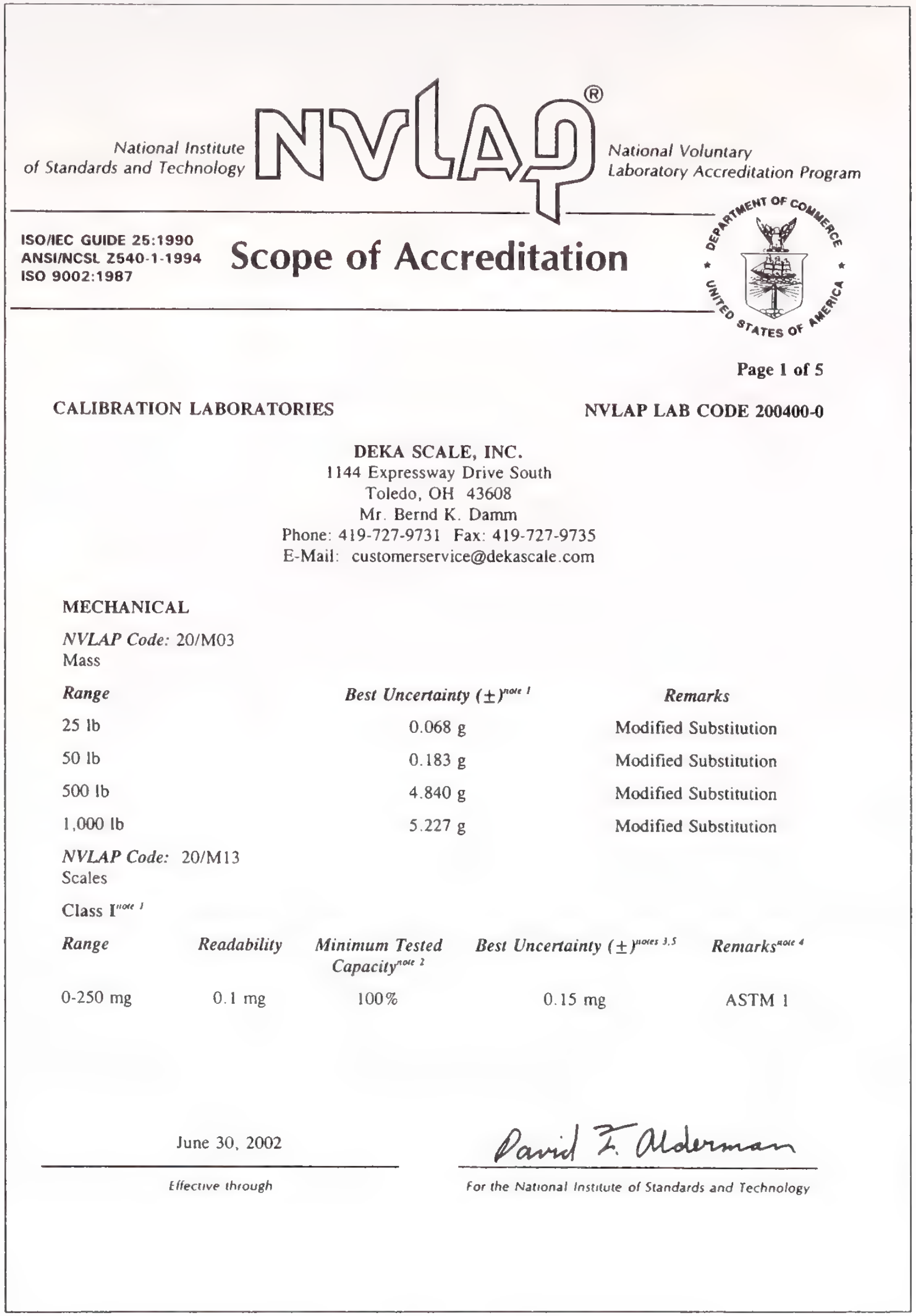

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CALIBRATION LABORATORIES — NVLAP LAB CODE 200400-0

DEKA SCALE, INC.
1144 Expressway Drive South
Toledo, OH 43608
Mr. Bernd K. Damm
Phone: 419-727-9731 Fax: 419-727-9735
E-Mail: customerservice@dekascale.com

MECHANICAL

NVLAP Code: 20/M03
Mass

Range	*Best Uncertainty* (±)[note 1]	*Remarks*
25 lb	0.068 g	Modified Substitution
50 lb	0.183 g	Modified Substitution
500 lb	4.840 g	Modified Substitution
1,000 lb	5.227 g	Modified Substitution

NVLAP Code: 20/M13
Scales

Class I[note 1]

Range	*Readability*	*Minimum Tested Capacity*[note 2]	*Best Uncertainty* (±)[notes 3,5]	*Remarks*[note 4]
0-250 mg	0.1 mg	100%	0.15 mg	ASTM 1

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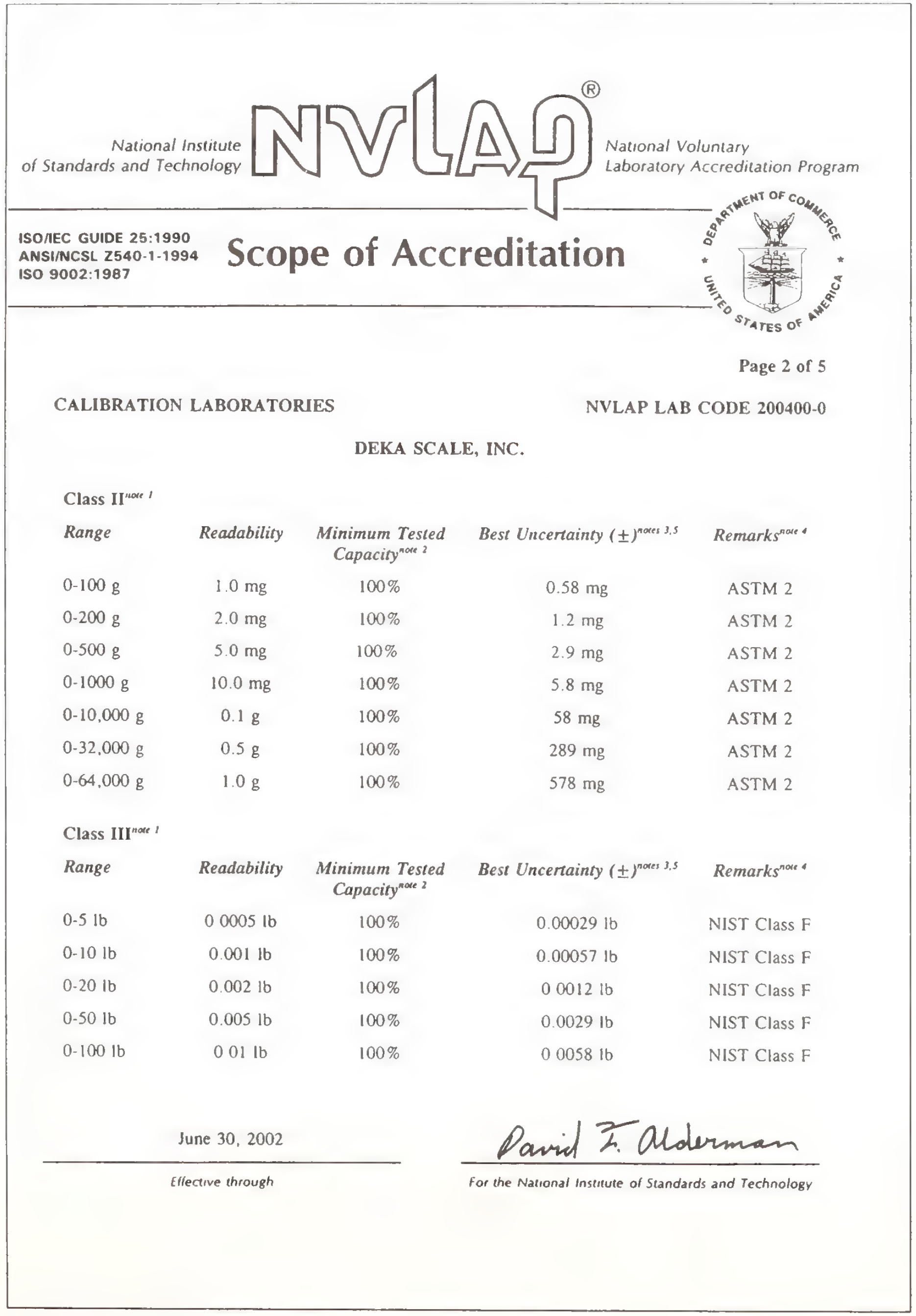

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DEKA SCALE, INC.

Class II[note 1]

Range	*Readability*	*Minimum Tested Capacity*[note 2]	*Best Uncertainty (±)*[notes 3,5]	*Remarks*[note 4]
0-100 g	1.0 mg	100%	0.58 mg	ASTM 2
0-200 g	2.0 mg	100%	1.2 mg	ASTM 2
0-500 g	5.0 mg	100%	2.9 mg	ASTM 2
0-1000 g	10.0 mg	100%	5.8 mg	ASTM 2
0-10,000 g	0.1 g	100%	58 mg	ASTM 2
0-32,000 g	0.5 g	100%	289 mg	ASTM 2
0-64,000 g	1.0 g	100%	578 mg	ASTM 2

Class III[note 1]

Range	*Readability*	*Minimum Tested Capacity*[note 2]	*Best Uncertainty (±)*[notes 3,5]	*Remarks*[note 4]
0-5 lb	0.0005 lb	100%	0.00029 lb	NIST Class F
0-10 lb	0.001 lb	100%	0.00057 lb	NIST Class F
0-20 lb	0.002 lb	100%	0.0012 lb	NIST Class F
0-50 lb	0.005 lb	100%	0.0029 lb	NIST Class F
0-100 lb	0.01 lb	100%	0.0058 lb	NIST Class F

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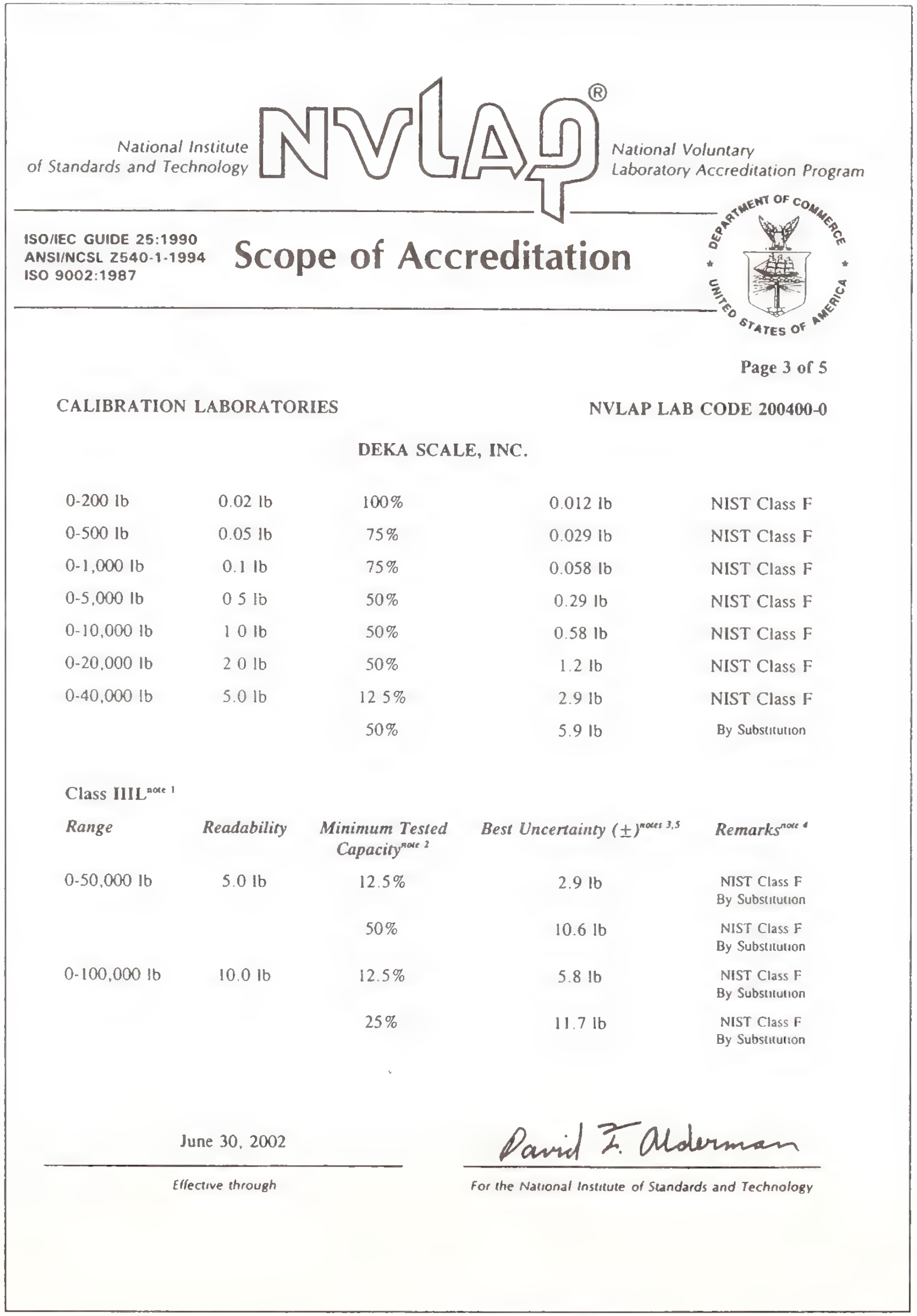

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DEKA SCALE, INC.

0-200 lb	0.02 lb	100%	0.012 lb	NIST Class F
0-500 lb	0.05 lb	75%	0.029 lb	NIST Class F
0-1,000 lb	0.1 lb	75%	0.058 lb	NIST Class F
0-5,000 lb	0.5 lb	50%	0.29 lb	NIST Class F
0-10,000 lb	1.0 lb	50%	0.58 lb	NIST Class F
0-20,000 lb	2.0 lb	50%	1.2 lb	NIST Class F
0-40,000 lb	5.0 lb	12.5%	2.9 lb	NIST Class F
		50%	5.9 lb	By Substitution

Class IIIL[note 1]

Range	*Readability*	*Minimum Tested Capacity*[note 2]	*Best Uncertainty (±)*[notes 3,5]	*Remarks*[note 4]
0-50,000 lb	5.0 lb	12.5%	2.9 lb	NIST Class F By Substitution
		50%	10.6 lb	NIST Class F By Substitution
0-100,000 lb	10.0 lb	12.5%	5.8 lb	NIST Class F By Substitution
		25%	11.7 lb	NIST Class F By Substitution

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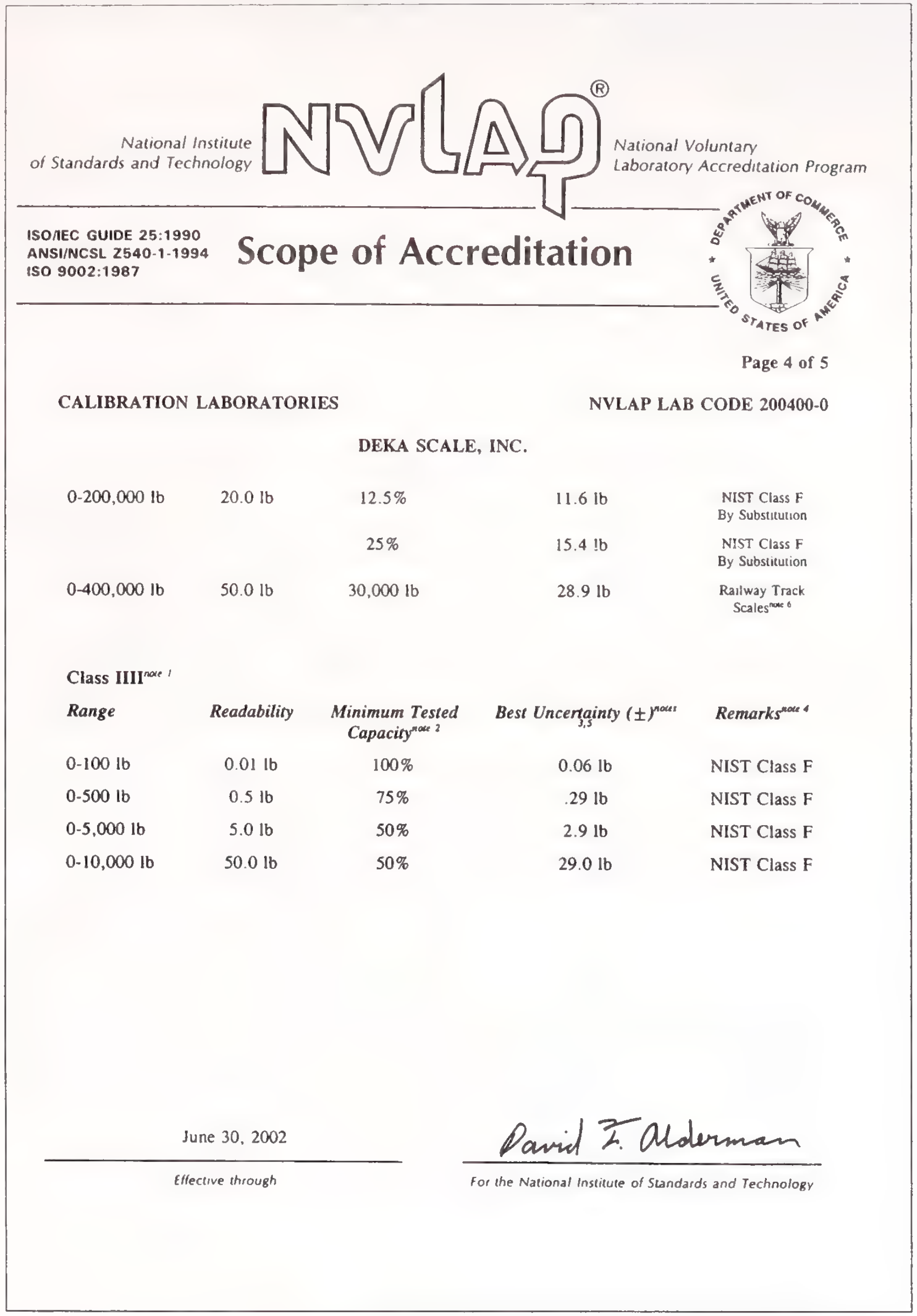

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DEKA SCALE, INC.

0-200,000 lb	20.0 lb	12.5%	11.6 lb	NIST Class F By Substitution
		25%	15.4 lb	NIST Class F By Substitution
0-400,000 lb	50.0 lb	30,000 lb	28.9 lb	Railway Track Scales$^{note\ 6}$

Class IIII$^{note\ 1}$

Range	*Readability*	*Minimum Tested Capacity*$^{note\ 2}$	*Best Uncertainty (±)*$^{notes\ 3,5}$	*Remarks*$^{note\ 4}$
0-100 lb	0.01 lb	100%	0.06 lb	NIST Class F
0-500 lb	0.5 lb	75%	.29 lb	NIST Class F
0-5,000 lb	5.0 lb	50%	2.9 lb	NIST Class F
0-10,000 lb	50.0 lb	50%	29.0 lb	NIST Class F

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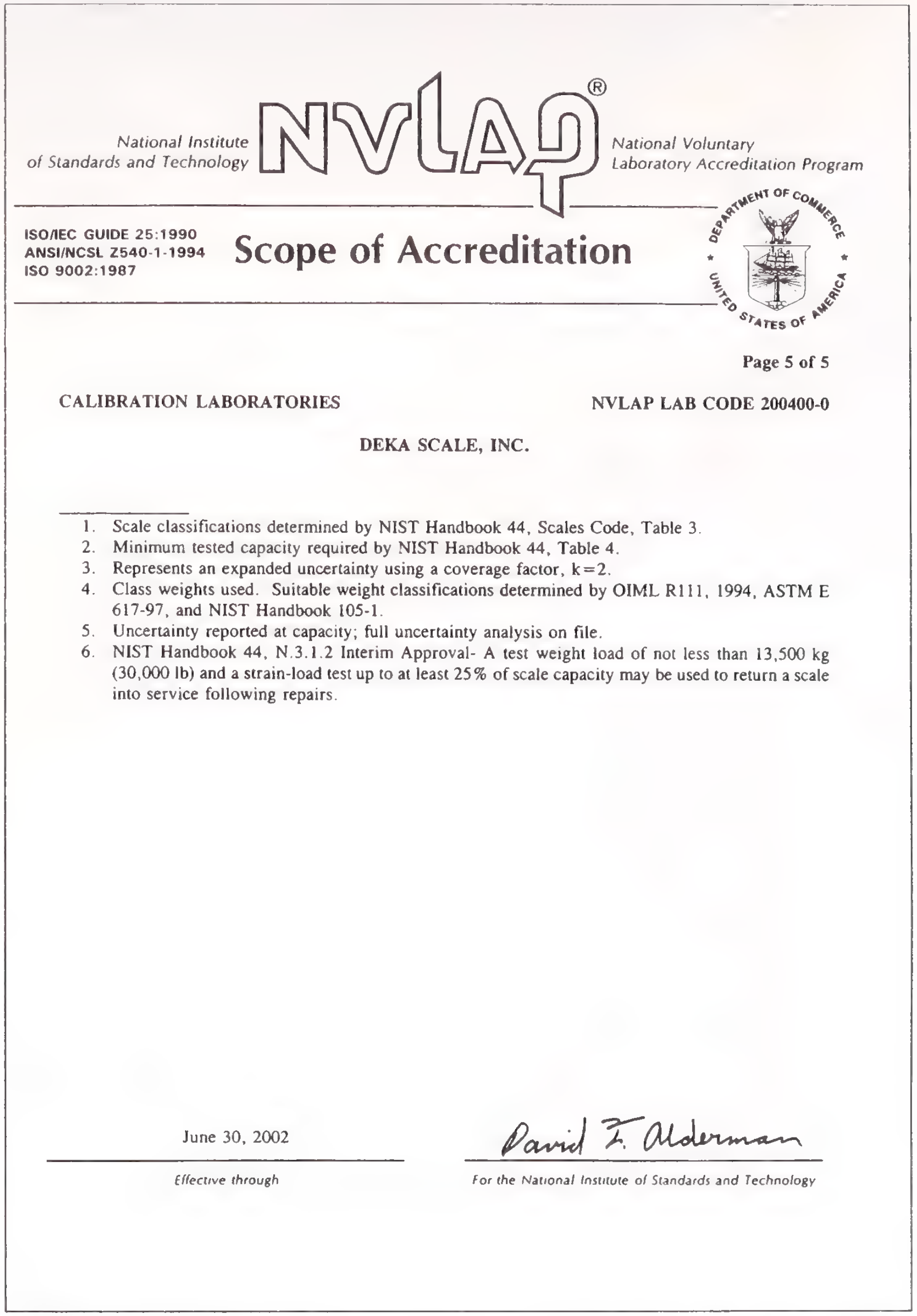

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CALIBRATION LABORATORIES **NVLAP LAB CODE 200400-0**

DEKA SCALE, INC.

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1. Scale classifications determined by NIST Handbook 44, Scales Code, Table 3.
2. Minimum tested capacity required by NIST Handbook 44, Table 4.
3. Represents an expanded uncertainty using a coverage factor, k=2.
4. Class weights used. Suitable weight classifications determined by OIML R111, 1994, ASTM E 617-97, and NIST Handbook 105-1.
5. Uncertainty reported at capacity; full uncertainty analysis on file.
6. NIST Handbook 44, N.3.1.2 Interim Approval- A test weight load of not less than 13,500 kg (30,000 lb) and a strain-load test up to at least 25% of scale capacity may be used to return a scale into service following repairs.

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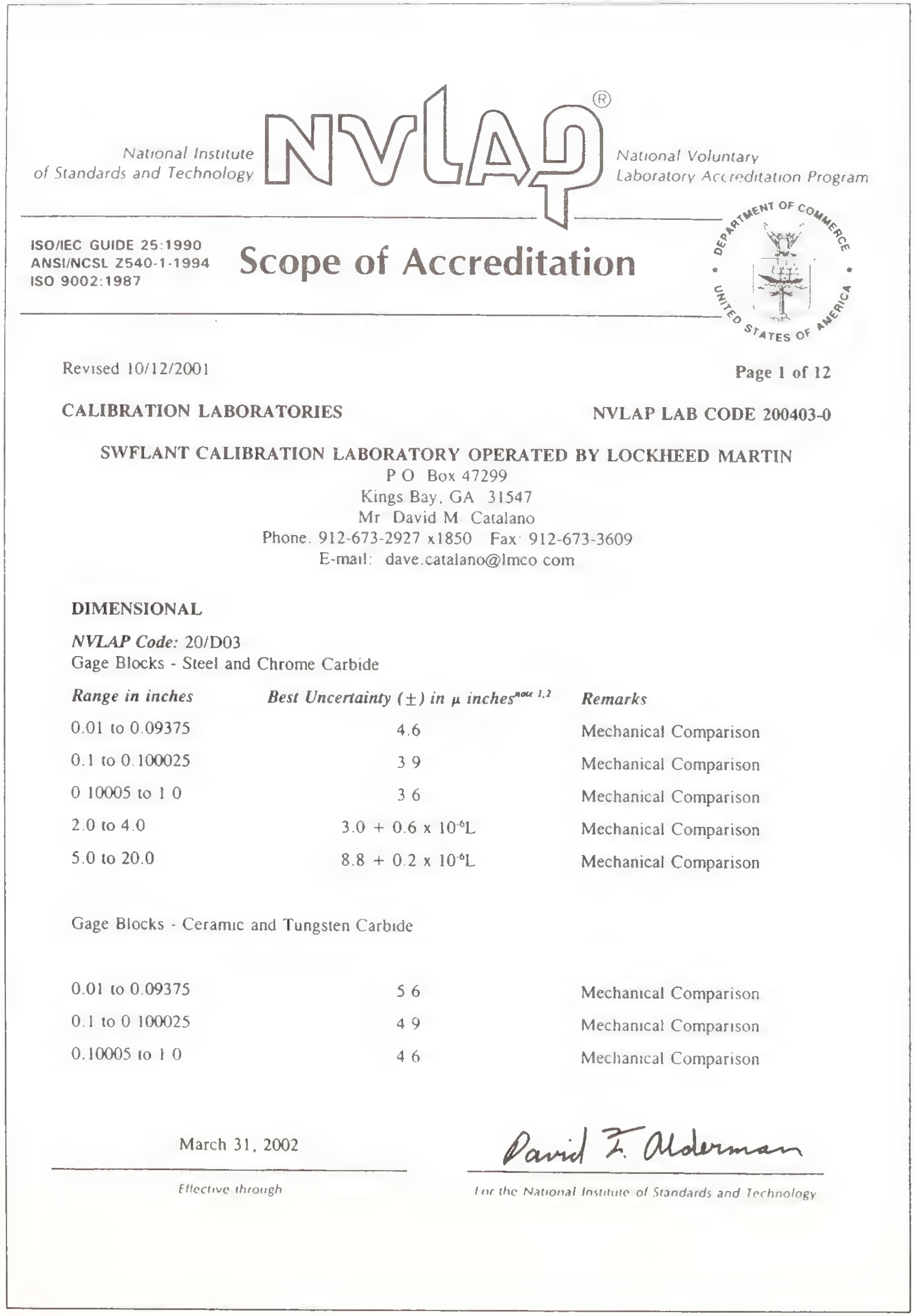

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CALIBRATION LABORATORIES

NVLAP LAB CODE 200403-0

SWFLANT CALIBRATION LABORATORY OPERATED BY LOCKHEED MARTIN
P O Box 47299
Kings Bay, GA 31547
Mr David M Catalano
Phone. 912-673-2927 x1850 Fax: 912-673-3609
E-mail: dave.catalano@lmco com

DIMENSIONAL

NVLAP Code: 20/D03
Gage Blocks - Steel and Chrome Carbide

Range in inches	*Best Uncertainty* (±) *in* μ *inches*$^{note\ 1,2}$	*Remarks*
0.01 to 0.09375	4.6	Mechanical Comparison
0.1 to 0.100025	3 9	Mechanical Comparison
0 10005 to 1 0	3 6	Mechanical Comparison
2.0 to 4.0	3.0 + 0.6 x 10^{-6}L	Mechanical Comparison
5.0 to 20.0	8.8 + 0.2 x 10^{-6}L	Mechanical Comparison

Gage Blocks - Ceramic and Tungsten Carbide

0.01 to 0.09375	5 6	Mechanical Comparison
0.1 to 0 100025	4 9	Mechanical Comparison
0.10005 to 1 0	4 6	Mechanical Comparison

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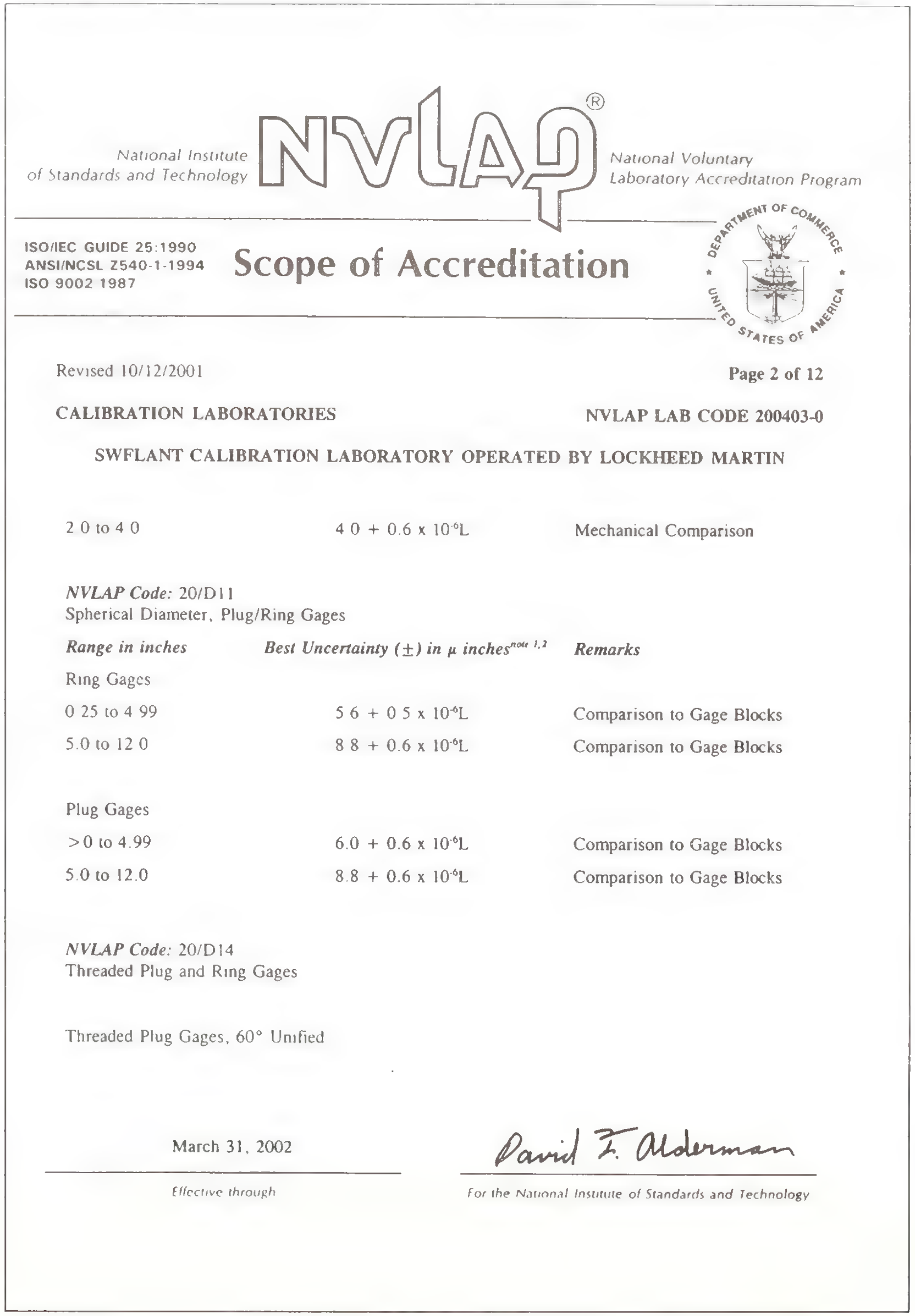

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SWFLANT CALIBRATION LABORATORY OPERATED BY LOCKHEED MARTIN

2 0 to 4 0	4 0 + 0.6 x 10^{-6}L	Mechanical Comparison

NVLAP Code: 20/D11
Spherical Diameter, Plug/Ring Gages

Range in inches	*Best Uncertainty* (±) *in* μ *inches*$^{note\ 1,2}$	*Remarks*
Ring Gages		
0 25 to 4 99	5 6 + 0 5 x 10^{-6}L	Comparison to Gage Blocks
5.0 to 12 0	8 8 + 0.6 x 10^{-6}L	Comparison to Gage Blocks
Plug Gages		
>0 to 4.99	6.0 + 0.6 x 10^{-6}L	Comparison to Gage Blocks
5.0 to 12.0	8.8 + 0.6 x 10^{-6}L	Comparison to Gage Blocks

NVLAP Code: 20/D14
Threaded Plug and Ring Gages

Threaded Plug Gages, 60° Unified

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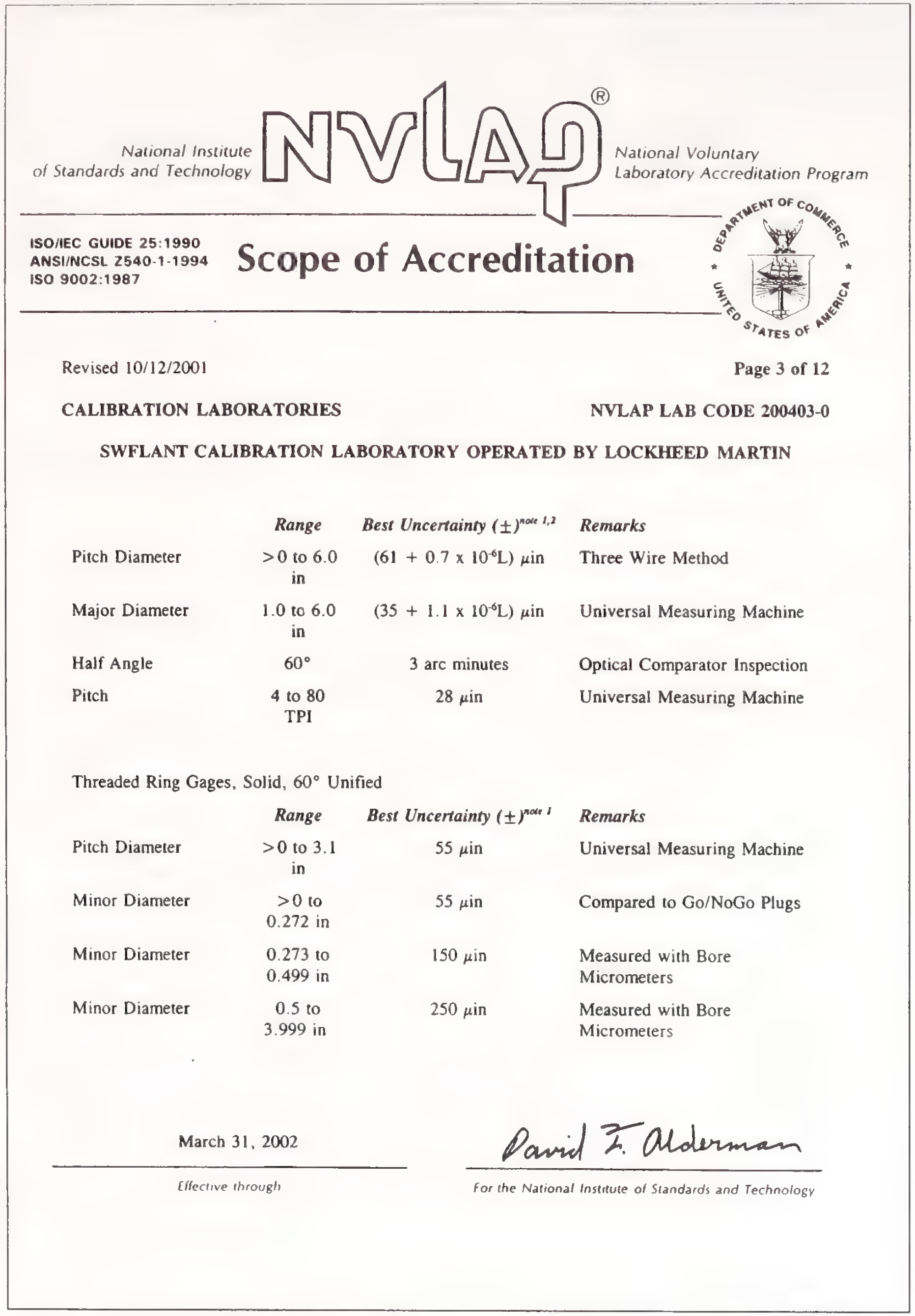

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SWFLANT CALIBRATION LABORATORY OPERATED BY LOCKHEED MARTIN

	Range	*Best Uncertainty* $(\pm)^{note\ 1,2}$	*Remarks*
Pitch Diameter	>0 to 6.0 in	(61 + 0.7 x 10^{-6}L) μin	Three Wire Method
Major Diameter	1.0 to 6.0 in	(35 + 1.1 x 10^{-6}L) μin	Universal Measuring Machine
Half Angle	60°	3 arc minutes	Optical Comparator Inspection
Pitch	4 to 80 TPI	28 μin	Universal Measuring Machine

Threaded Ring Gages, Solid, 60° Unified

	Range	*Best Uncertainty* $(\pm)^{note\ 1}$	*Remarks*
Pitch Diameter	>0 to 3.1 in	55 μin	Universal Measuring Machine
Minor Diameter	>0 to 0.272 in	55 μin	Compared to Go/NoGo Plugs
Minor Diameter	0.273 to 0.499 in	150 μin	Measured with Bore Micrometers
Minor Diameter	0.5 to 3.999 in	250 μin	Measured with Bore Micrometers

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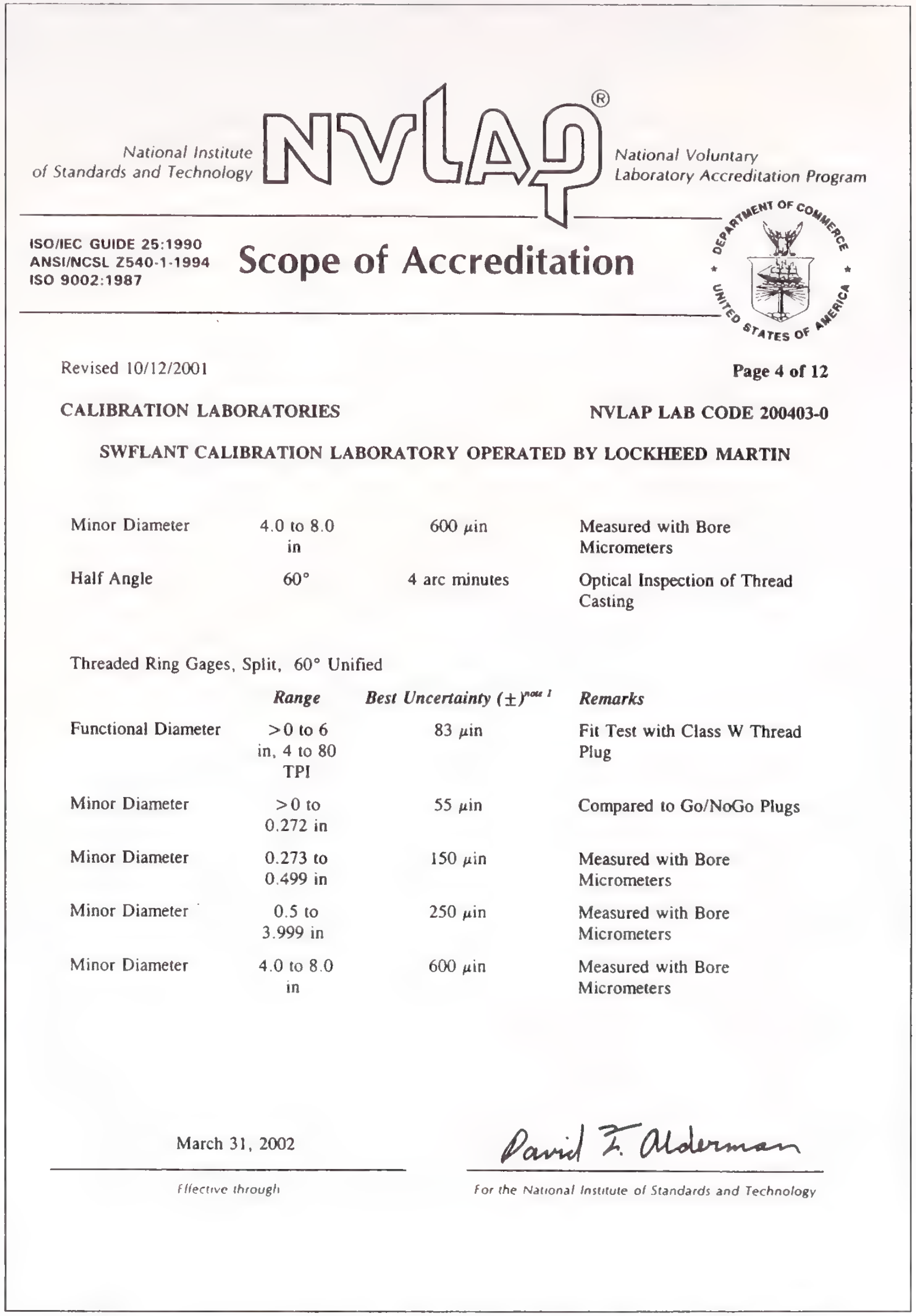

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SWFLANT CALIBRATION LABORATORY OPERATED BY LOCKHEED MARTIN

Minor Diameter	4.0 to 8.0 in	600 μin	Measured with Bore Micrometers
Half Angle	60°	4 arc minutes	Optical Inspection of Thread Casting

Threaded Ring Gages, Split, 60° Unified

	Range	*Best Uncertainty* $(\pm)^{note\ 1}$	*Remarks*
Functional Diameter	>0 to 6 in, 4 to 80 TPI	83 μin	Fit Test with Class W Thread Plug
Minor Diameter	>0 to 0.272 in	55 μin	Compared to Go/NoGo Plugs
Minor Diameter	0.273 to 0.499 in	150 μin	Measured with Bore Micrometers
Minor Diameter	0.5 to 3.999 in	250 μin	Measured with Bore Micrometers
Minor Diameter	4.0 to 8.0 in	600 μin	Measured with Bore Micrometers

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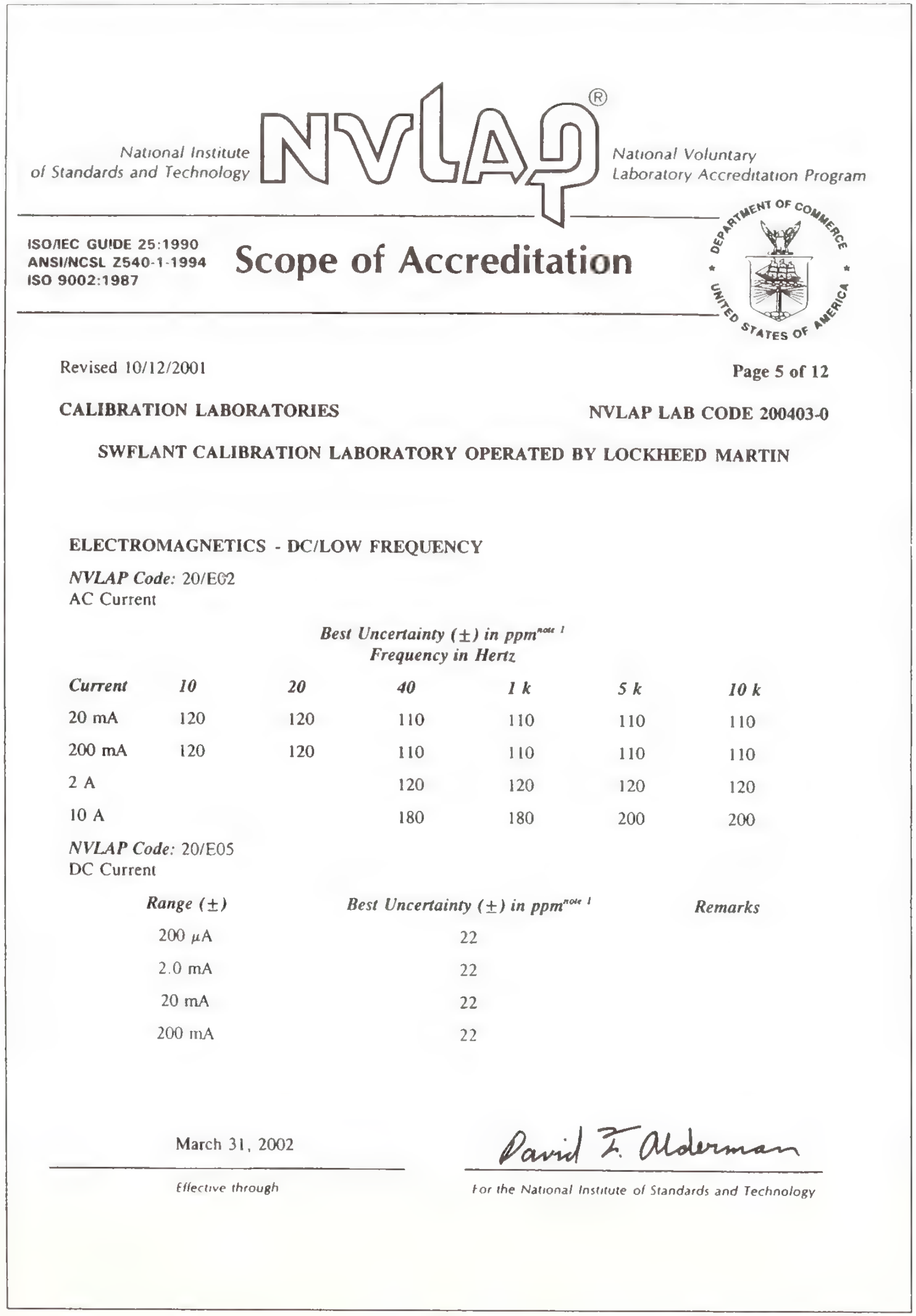

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SWFLANT CALIBRATION LABORATORY OPERATED BY LOCKHEED MARTIN

ELECTROMAGNETICS - DC/LOW FREQUENCY

NVLAP Code: 20/E02
AC Current

	Best Uncertainty (±) in ppm$^{note\ 1}$ Frequency in Hertz					
Current	*10*	*20*	*40*	*1 k*	*5 k*	*10 k*
20 mA	120	120	110	110	110	110
200 mA	120	120	110	110	110	110
2 A			120	120	120	120
10 A			180	180	200	200

NVLAP Code: 20/E05
DC Current

Range (±)	*Best Uncertainty (±) in ppm$^{note\ 1}$*	*Remarks*
200 μA	22	
2.0 mA	22	
20 mA	22	
200 mA	22	

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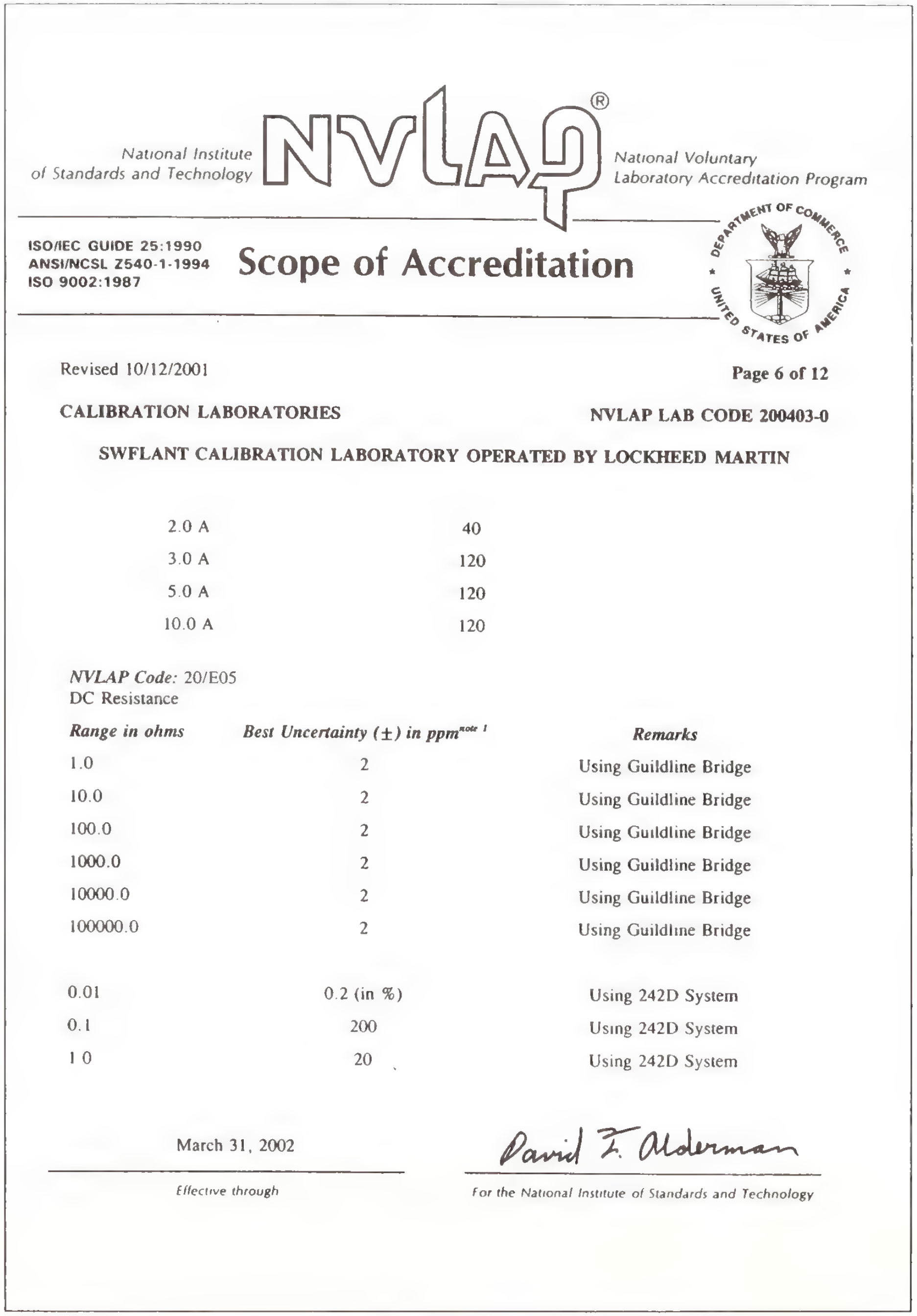

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CALIBRATION LABORATORIES **NVLAP LAB CODE 200403-0**

SWFLANT CALIBRATION LABORATORY OPERATED BY LOCKHEED MARTIN

2.0 A	40
3.0 A	120
5.0 A	120
10.0 A	120

NVLAP Code: 20/E05
DC Resistance

Range in ohms	*Best Uncertainty (±) in ppm$^{note\ 1}$*	*Remarks*
1.0	2	Using Guildline Bridge
10.0	2	Using Guildline Bridge
100.0	2	Using Guildline Bridge
1000.0	2	Using Guildline Bridge
10000.0	2	Using Guildline Bridge
100000.0	2	Using Guildline Bridge
0.01	0.2 (in %)	Using 242D System
0.1	200	Using 242D System
1 0	20	Using 242D System

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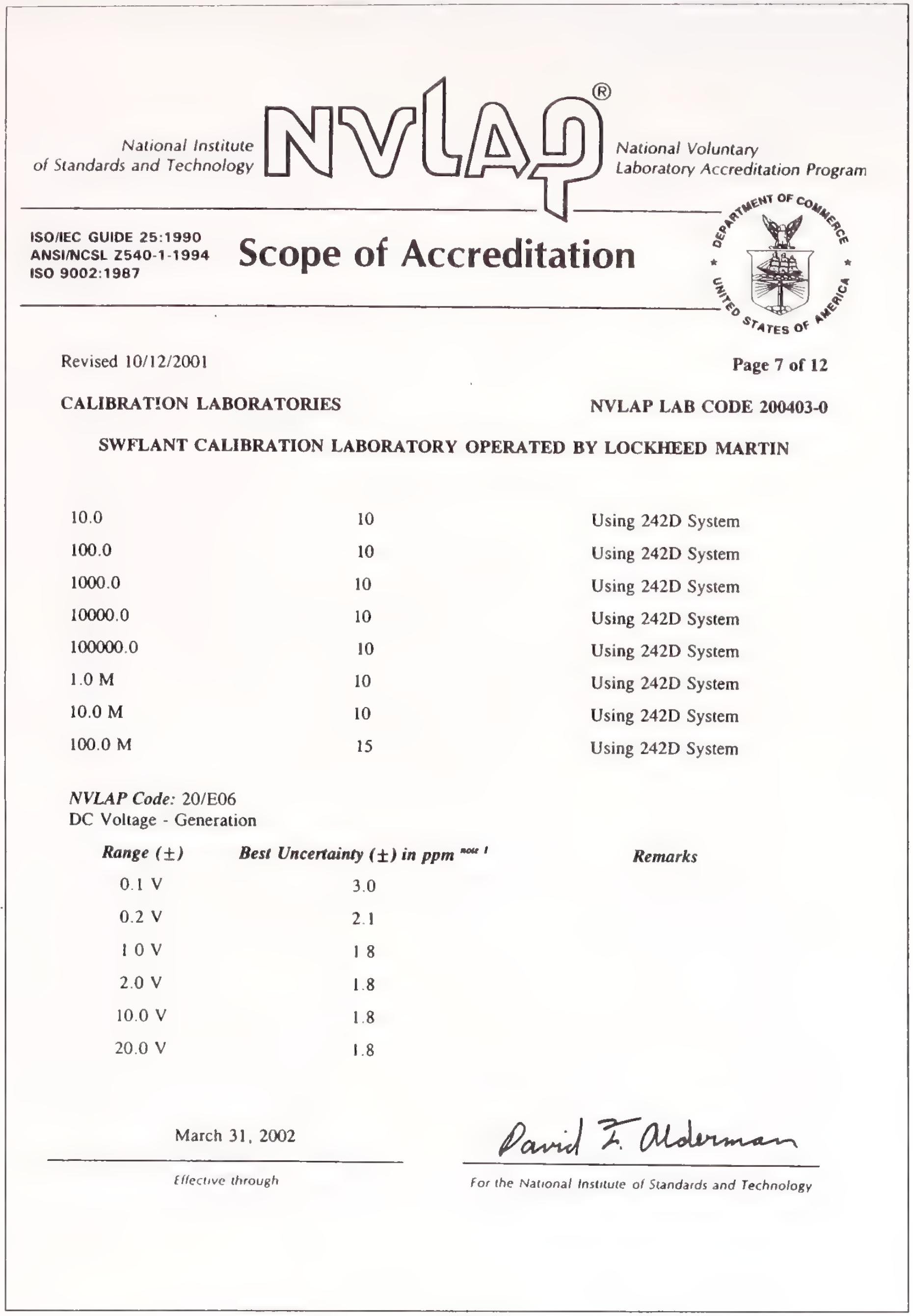

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SWFLANT CALIBRATION LABORATORY OPERATED BY LOCKHEED MARTIN

10.0	10	Using 242D System
100.0	10	Using 242D System
1000.0	10	Using 242D System
10000.0	10	Using 242D System
100000.0	10	Using 242D System
1.0 M	10	Using 242D System
10.0 M	10	Using 242D System
100.0 M	15	Using 242D System

NVLAP Code: 20/E06
DC Voltage - Generation

Range (±)	***Best Uncertainty*** (±) ***in ppm*** note 1	***Remarks***
0.1 V	3.0	
0.2 V	2.1	
1.0 V	1.8	
2.0 V	1.8	
10.0 V	1.8	
20.0 V	1.8	

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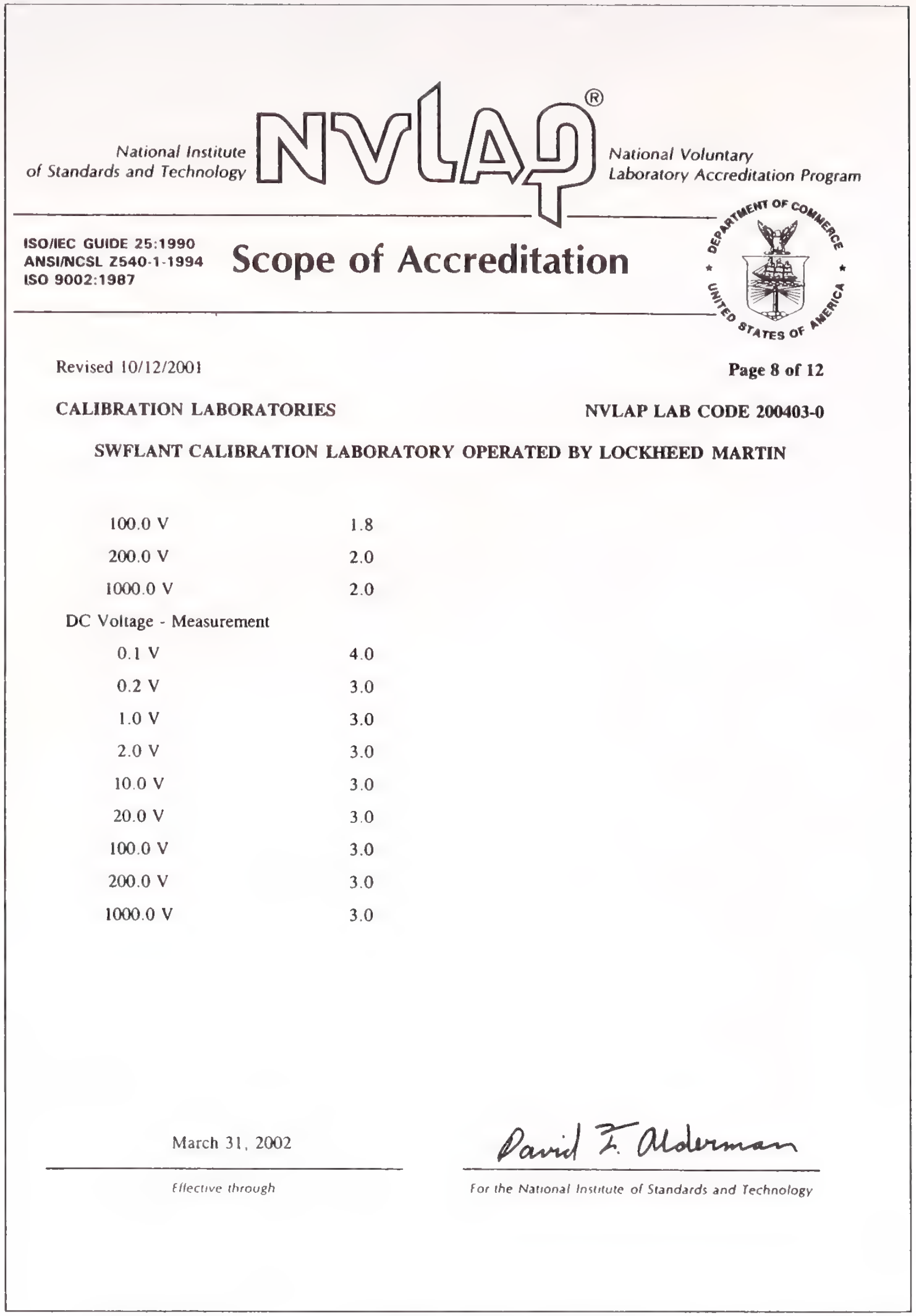

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CALIBRATION LABORATORIES **NVLAP LAB CODE 200403-0**

SWFLANT CALIBRATION LABORATORY OPERATED BY LOCKHEED MARTIN

100.0 V	1.8
200.0 V	2.0
1000.0 V	2.0
DC Voltage - Measurement	
0.1 V	4.0
0.2 V	3.0
1.0 V	3.0
2.0 V	3.0
10.0 V	3.0
20.0 V	3.0
100.0 V	3.0
200.0 V	3.0
1000.0 V	3.0

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CALIBRATION LABORATORIES **NVLAP LAB CODE 200403-0**

SWFLANT CALIBRATION LABORATORY OPERATED BY LOCKHEED MARTIN

NVLAP Code: 20/E09
LF AC Voltage

Best Uncertainty (±) in ppm*note 1*
Frequency in Hertz

Range	*10*	*20*	*40*	*50*	*300*	*1 k*	*20 k*	*50 k*	*100 k*	*300 k*	*500 k*	*1 M*
20 mV	110	100	100			100	100	200	310	410	580	580
200 mV	50	50	30			30	30	50	90	150	150	240
2 V	100	40	30			20	20	40	50	120	120	120
20 V	40	40	30			20	20	40	50	120	130	130
200 V	40	45	25			25	25	50	60			
300 V							40					
600 V								60	80			
1000 V			35	35	30	30	40	40				

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CALIBRATION LABORATORIES **NVLAP LAB CODE 200403-0**

SWFLANT CALIBRATION LABORATORY OPERATED BY LOCKHEED MARTIN

TIME AND FREQUENCY

NVLAP Code: 20/F01
Frequency Dissemination

Range	*Best Uncertainty (±)**note 1*	*Remarks*
1 MHz, 5 MHz, 10 MHz	5.0×10^{-12}	Comparison using FMS

NVLAP Code: 20/F02
Time Dissemination

Range	*Best Uncertainty (±)**note 1*	*Remarks*
n/a	1 μ second	UTC(USNO) Transfer

MECHANICAL

NVLAP Code: 20/M06
Force - Torque

Calibration of strain gage torque standards, increasing torque, non-adjustable, defined scale instruments.

Range in lb-ft	*Best Uncertainty (±)**note 1*	*Remarks*
10 to 100	0.045% of Full Scale	Comparison to moment arm and dead weights
>100 to 6500	0.025% of Full Scale	Comparison to moment arm and dead weights

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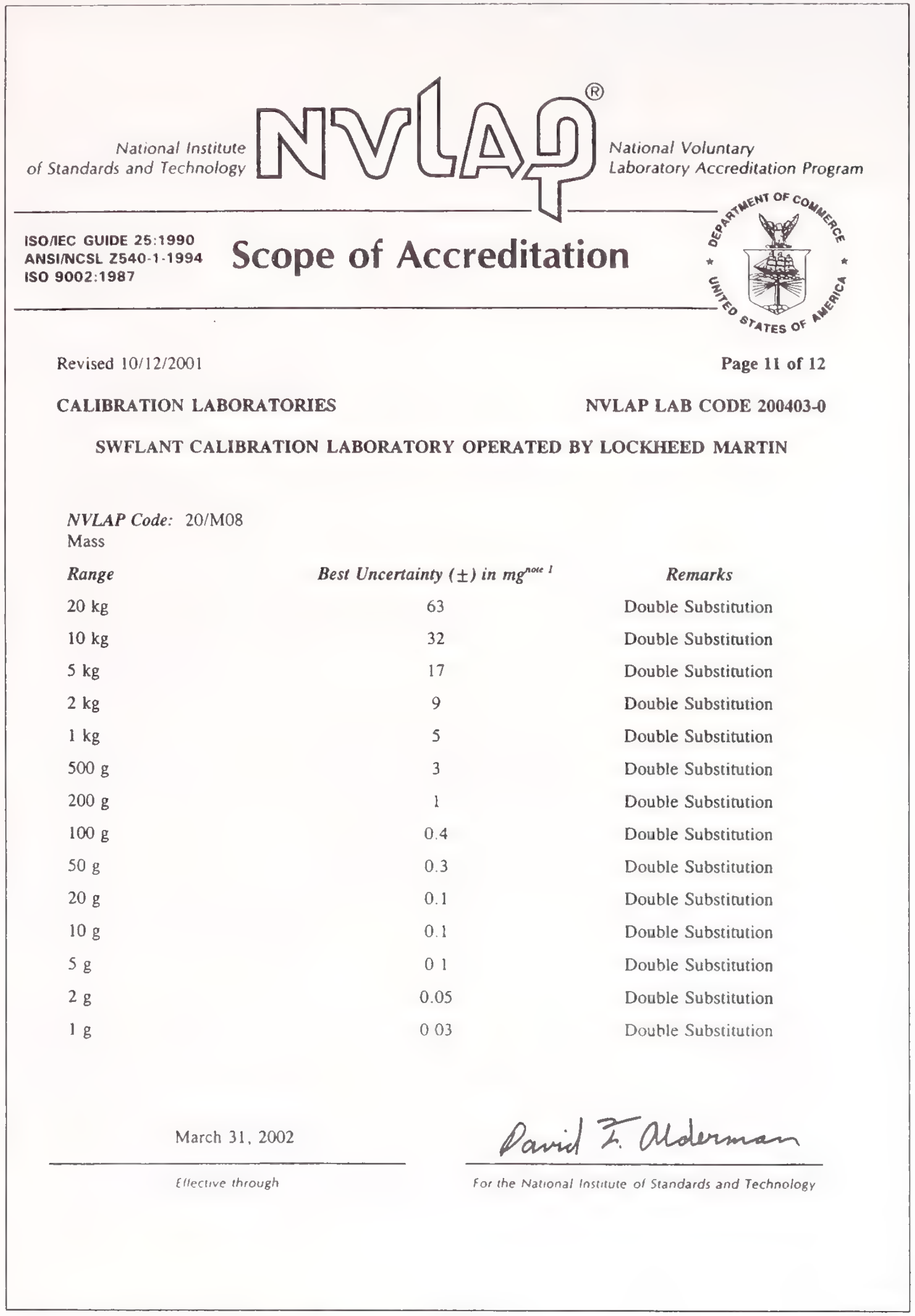

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CALIBRATION LABORATORIES **NVLAP LAB CODE 200403-0**

SWFLANT CALIBRATION LABORATORY OPERATED BY LOCKHEED MARTIN

NVLAP Code: 20/M08
Mass

Range	*Best Uncertainty (±) in mg$^{\text{note 1}}$*	*Remarks*
20 kg	63	Double Substitution
10 kg	32	Double Substitution
5 kg	17	Double Substitution
2 kg	9	Double Substitution
1 kg	5	Double Substitution
500 g	3	Double Substitution
200 g	1	Double Substitution
100 g	0.4	Double Substitution
50 g	0.3	Double Substitution
20 g	0.1	Double Substitution
10 g	0.1	Double Substitution
5 g	0 1	Double Substitution
2 g	0.05	Double Substitution
1 g	0 03	Double Substitution

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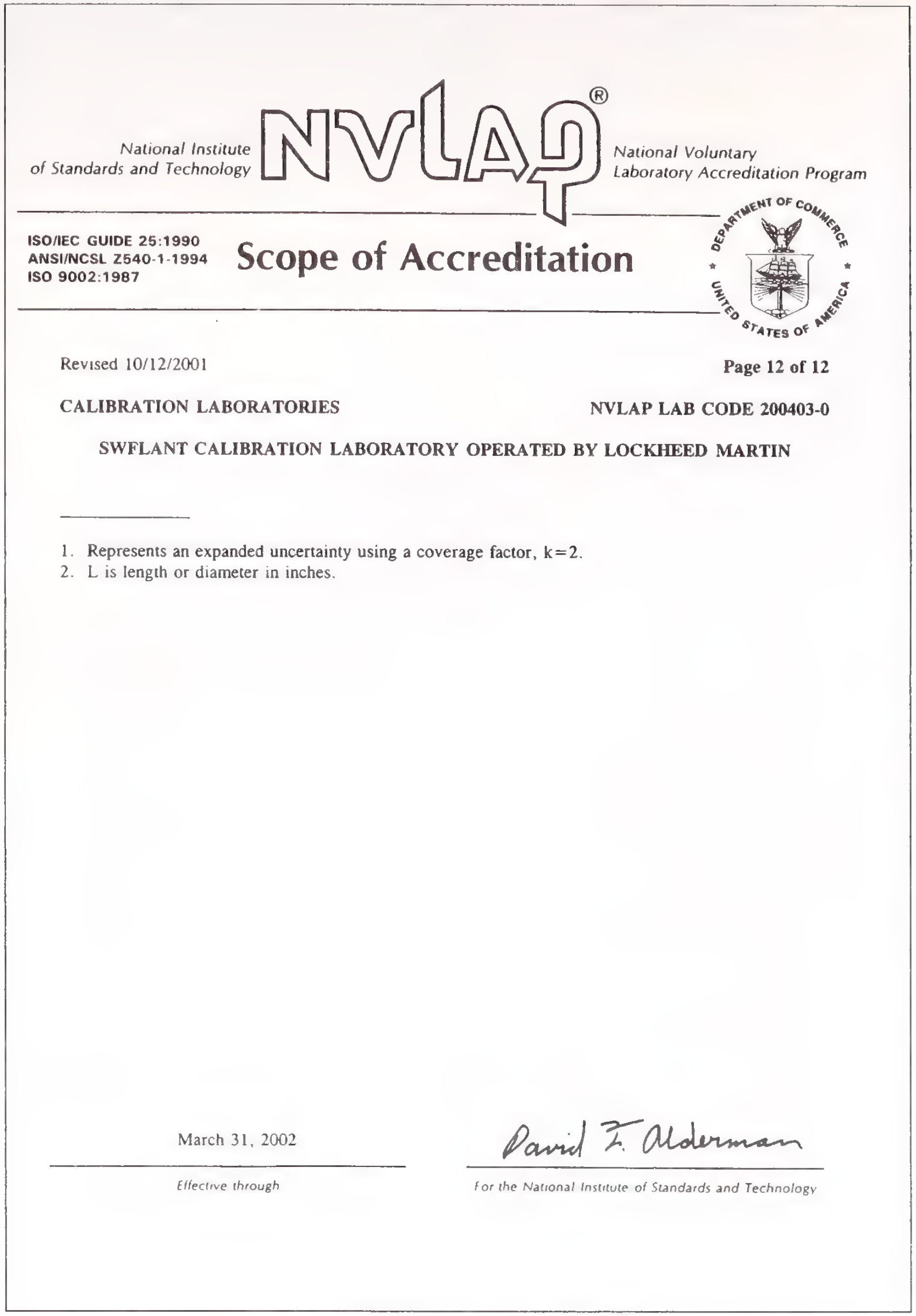

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CALIBRATION LABORATORIES **NVLAP LAB CODE 200403-0**

SWFLANT CALIBRATION LABORATORY OPERATED BY LOCKHEED MARTIN

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1. Represents an expanded uncertainty using a coverage factor, k=2.
2. L is length or diameter in inches.

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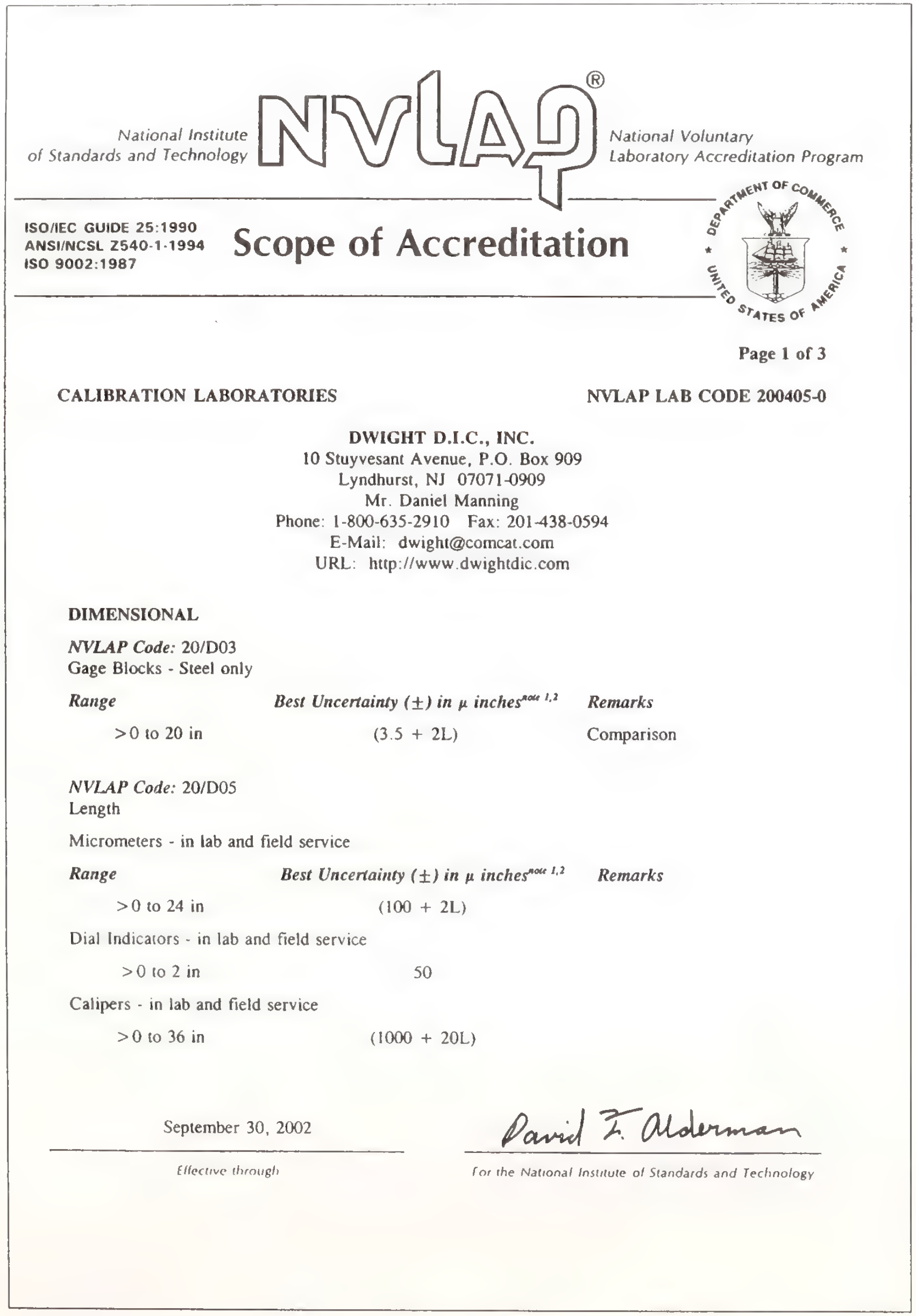

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CALIBRATION LABORATORIES NVLAP LAB CODE 200405-0

DWIGHT D.I.C., INC.
10 Stuyvesant Avenue, P.O. Box 909
Lyndhurst, NJ 07071-0909
Mr. Daniel Manning
Phone: 1-800-635-2910 Fax: 201-438-0594
E-Mail: dwight@comcat.com
URL: http://www.dwightdic.com

DIMENSIONAL

NVLAP Code: 20/D03
Gage Blocks - Steel only

Range	*Best Uncertainty (±) in μ inches*$^{\text{note } 1,2}$	*Remarks*
>0 to 20 in	(3.5 + 2L)	Comparison

NVLAP Code: 20/D05
Length

Micrometers - in lab and field service

Range	*Best Uncertainty (±) in μ inches*$^{\text{note } 1,2}$	*Remarks*
>0 to 24 in	(100 + 2L)	
Dial Indicators - in lab and field service		
>0 to 2 in	50	
Calipers - in lab and field service		
>0 to 36 in	(1000 + 20L)	

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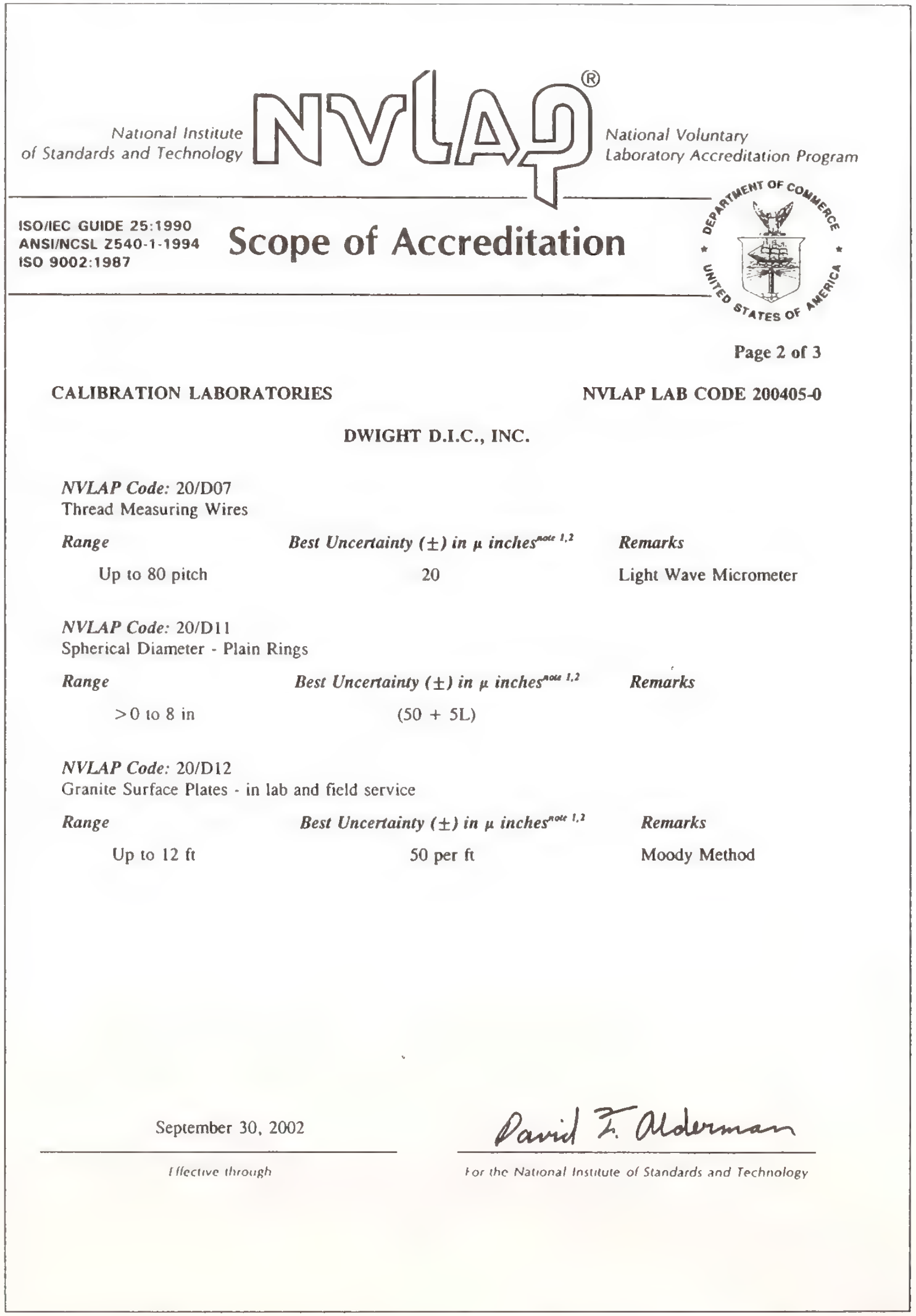

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CALIBRATION LABORATORIES NVLAP LAB CODE 200405-0

DWIGHT D.I.C., INC.

NVLAP Code: 20/D07
Thread Measuring Wires

Range	*Best Uncertainty (±) in μ inches*$^{\text{note } 1,2}$	*Remarks*
Up to 80 pitch	20	Light Wave Micrometer

NVLAP Code: 20/D11
Spherical Diameter - Plain Rings

Range	*Best Uncertainty (±) in μ inches*$^{\text{note } 1,2}$	*Remarks*
>0 to 8 in	(50 + 5L)	

NVLAP Code: 20/D12
Granite Surface Plates - in lab and field service

Range	*Best Uncertainty (±) in μ inches*$^{\text{note } 1,2}$	*Remarks*
Up to 12 ft	50 per ft	Moody Method

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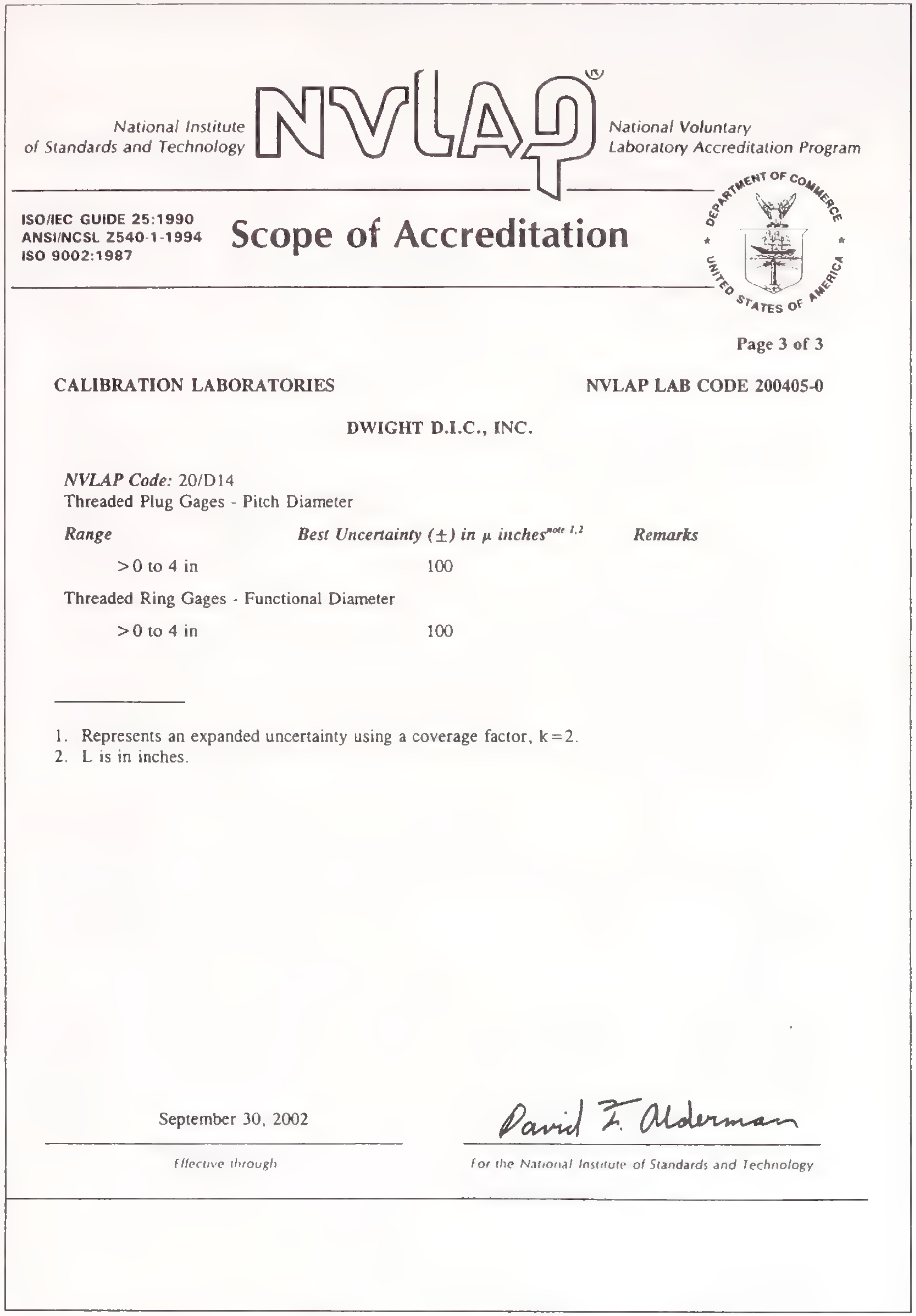

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CALIBRATION LABORATORIES — NVLAP LAB CODE 200405-0

DWIGHT D.I.C., INC.

NVLAP Code: 20/D14
Threaded Plug Gages - Pitch Diameter

Range	*Best Uncertainty (±) in μ inches*$^{\text{note 1,2}}$	*Remarks*
>0 to 4 in	100	
Threaded Ring Gages - Functional Diameter		
>0 to 4 in	100	

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1. Represents an expanded uncertainty using a coverage factor, k=2.
2. L is in inches.

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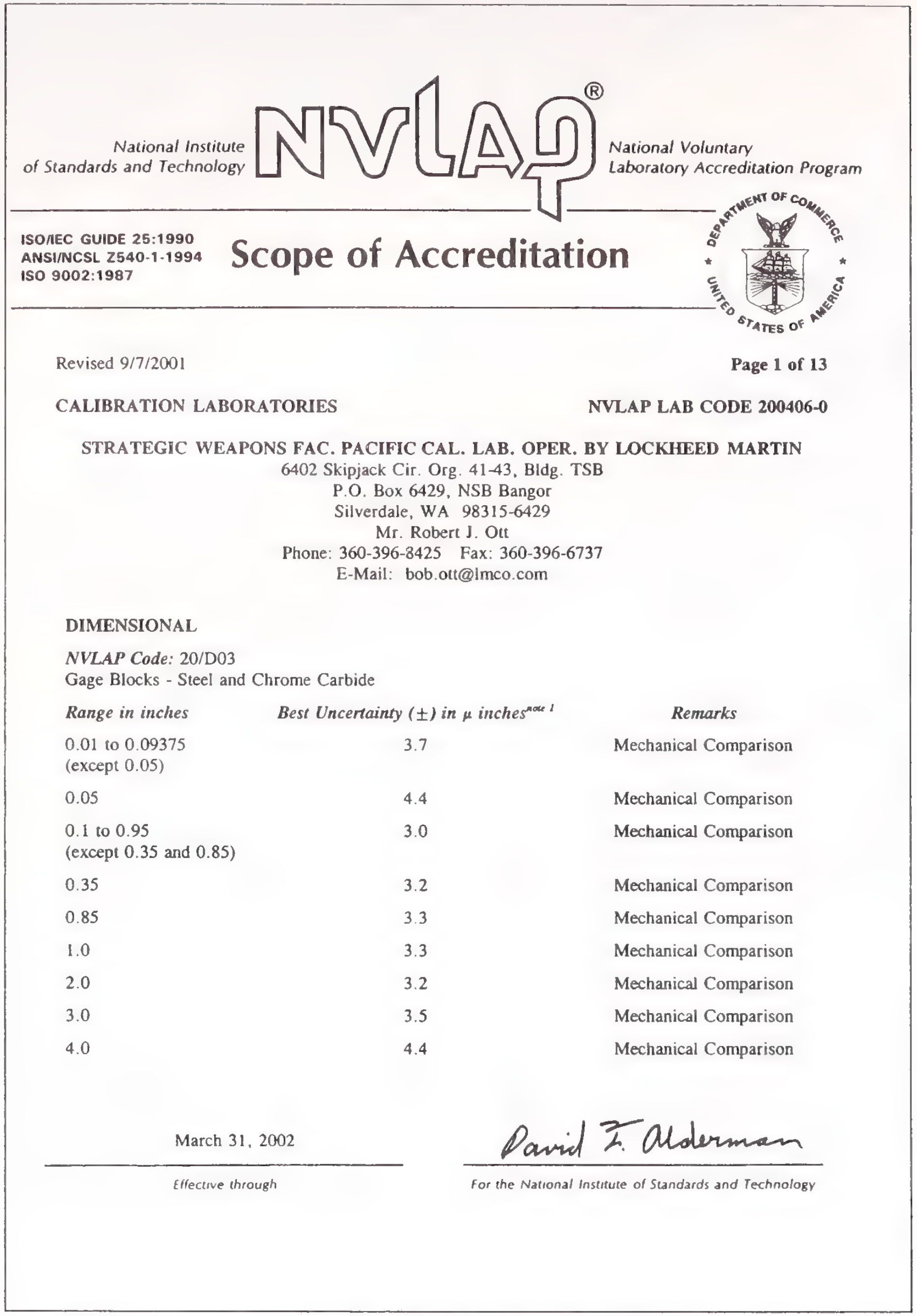

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CALIBRATION LABORATORIES — NVLAP LAB CODE 200406-0

STRATEGIC WEAPONS FAC. PACIFIC CAL. LAB. OPER. BY LOCKHEED MARTIN
6402 Skipjack Cir. Org. 41-43, Bldg. TSB
P.O. Box 6429, NSB Bangor
Silverdale, WA 98315-6429
Mr. Robert J. Ott
Phone: 360-396-8425 Fax: 360-396-6737
E-Mail: bob.ott@lmco.com

DIMENSIONAL

NVLAP Code: 20/D03
Gage Blocks - Steel and Chrome Carbide

Range in inches	*Best Uncertainty (±) in μ inches*$^{\text{note 1}}$	*Remarks*
0.01 to 0.09375 (except 0.05)	3.7	Mechanical Comparison
0.05	4.4	Mechanical Comparison
0.1 to 0.95 (except 0.35 and 0.85)	3.0	Mechanical Comparison
0.35	3.2	Mechanical Comparison
0.85	3.3	Mechanical Comparison
1.0	3.3	Mechanical Comparison
2.0	3.2	Mechanical Comparison
3.0	3.5	Mechanical Comparison
4.0	4.4	Mechanical Comparison

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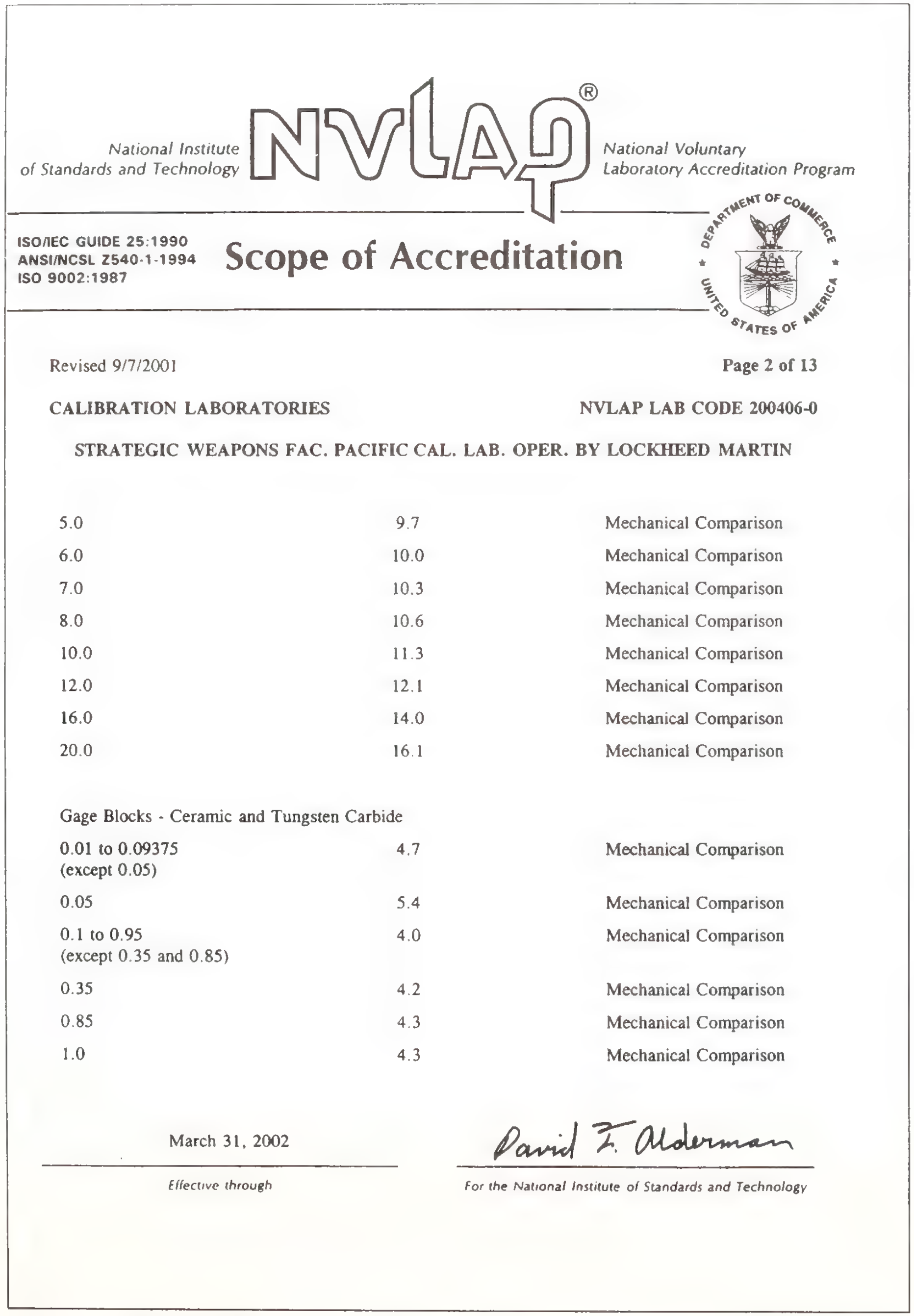

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5.0	9.7	Mechanical Comparison
6.0	10.0	Mechanical Comparison
7.0	10.3	Mechanical Comparison
8.0	10.6	Mechanical Comparison
10.0	11.3	Mechanical Comparison
12.0	12.1	Mechanical Comparison
16.0	14.0	Mechanical Comparison
20.0	16.1	Mechanical Comparison

Gage Blocks - Ceramic and Tungsten Carbide

0.01 to 0.09375 (except 0.05)	4.7	Mechanical Comparison
0.05	5.4	Mechanical Comparison
0.1 to 0.95 (except 0.35 and 0.85)	4.0	Mechanical Comparison
0.35	4.2	Mechanical Comparison
0.85	4.3	Mechanical Comparison
1.0	4.3	Mechanical Comparison

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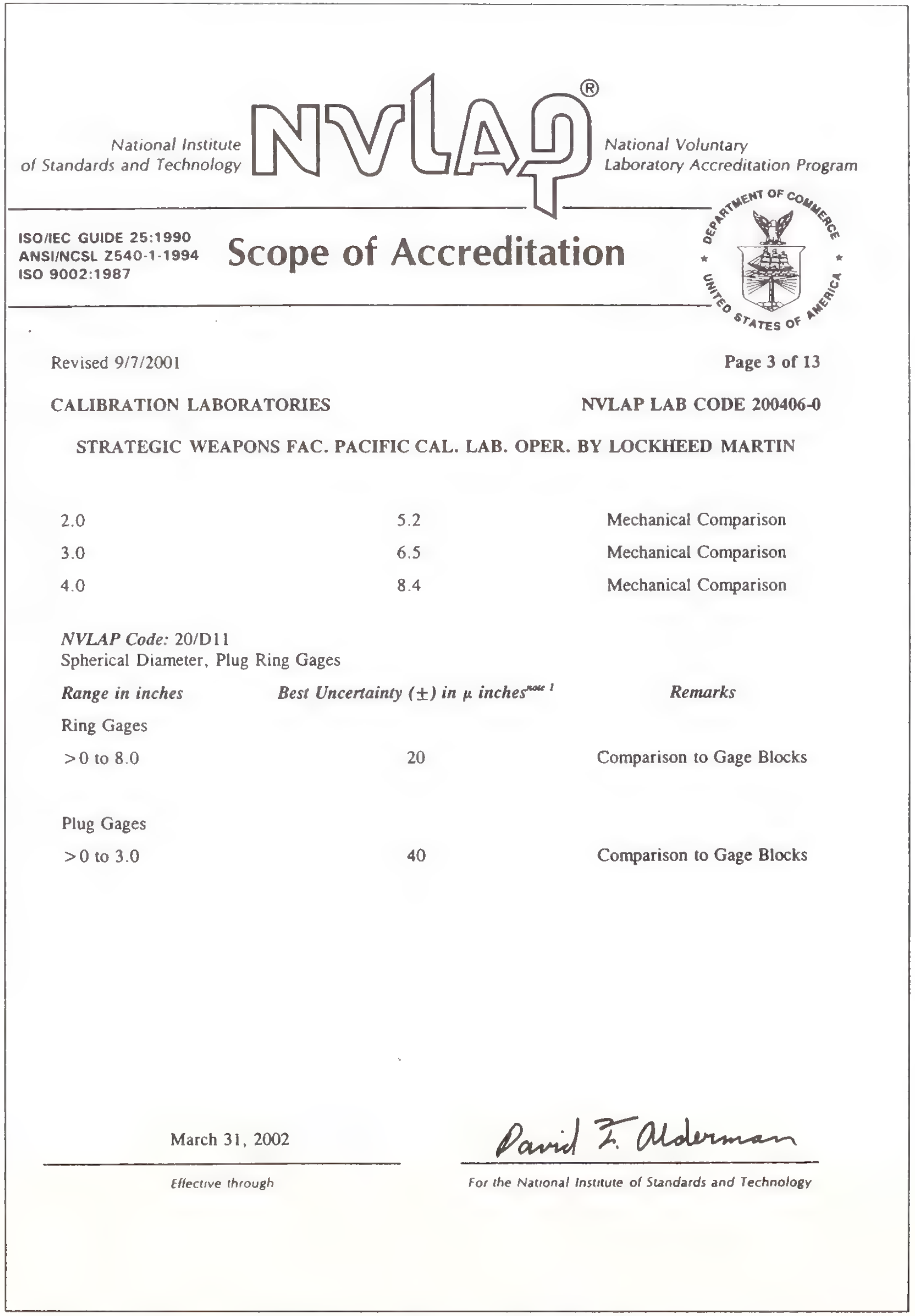

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2.0	5.2	Mechanical Comparison
3.0	6.5	Mechanical Comparison
4.0	8.4	Mechanical Comparison

NVLAP Code: 20/D11
Spherical Diameter, Plug Ring Gages

Range in inches	*Best Uncertainty (±) in μ inches*$^{note\ 1}$	*Remarks*
Ring Gages		
>0 to 8.0	20	Comparison to Gage Blocks
Plug Gages		
>0 to 3.0	40	Comparison to Gage Blocks

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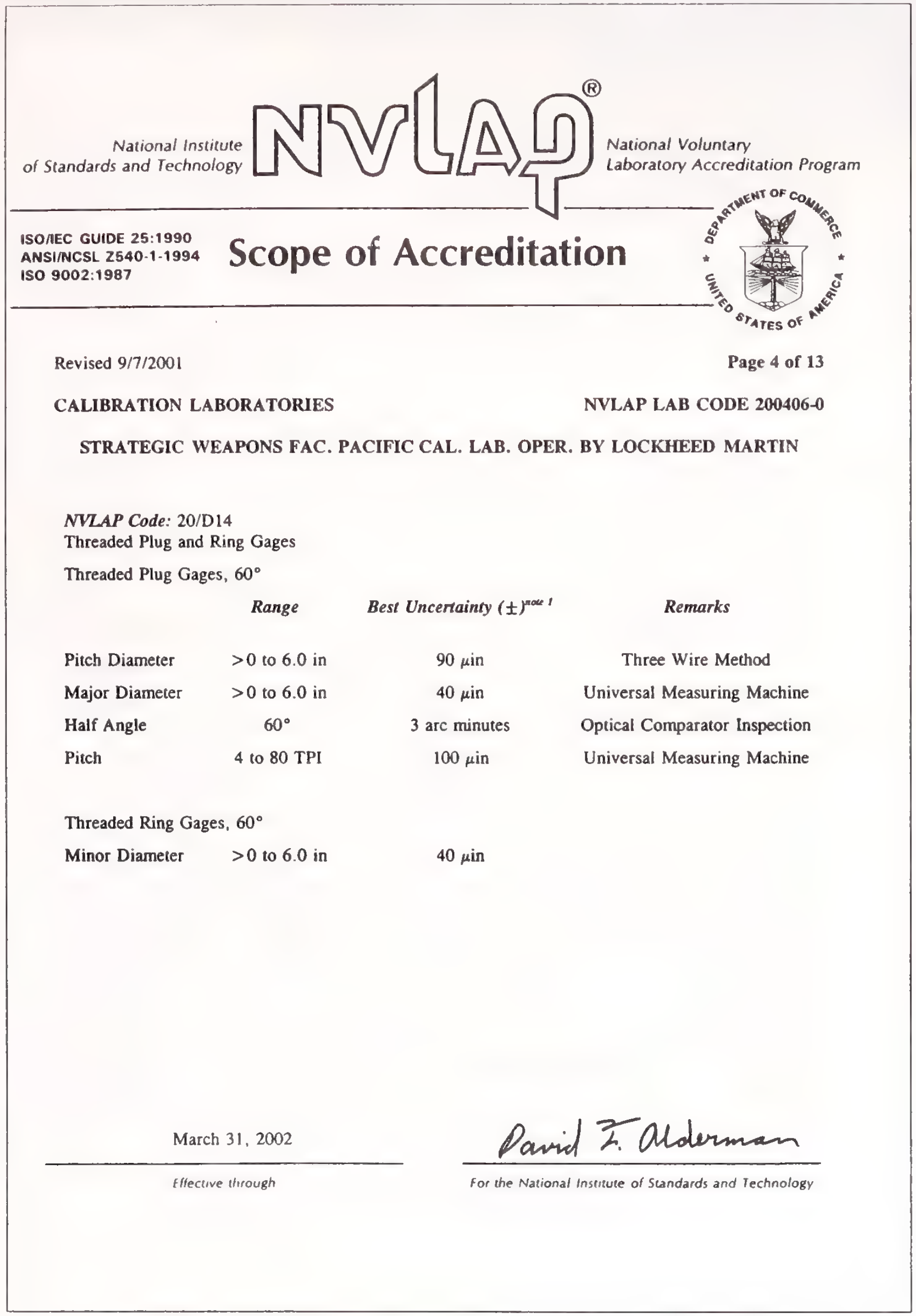

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CALIBRATION LABORATORIES NVLAP LAB CODE 200406-0

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NVLAP Code: 20/D14
Threaded Plug and Ring Gages

Threaded Plug Gages, 60°

	Range	*Best Uncertainty* (±)$^{\text{note 1}}$	*Remarks*
Pitch Diameter	>0 to 6.0 in	90 µin	Three Wire Method
Major Diameter	>0 to 6.0 in	40 µin	Universal Measuring Machine
Half Angle	60°	3 arc minutes	Optical Comparator Inspection
Pitch	4 to 80 TPI	100 µin	Universal Measuring Machine

Threaded Ring Gages, 60°

Minor Diameter	>0 to 6.0 in	40 µin	

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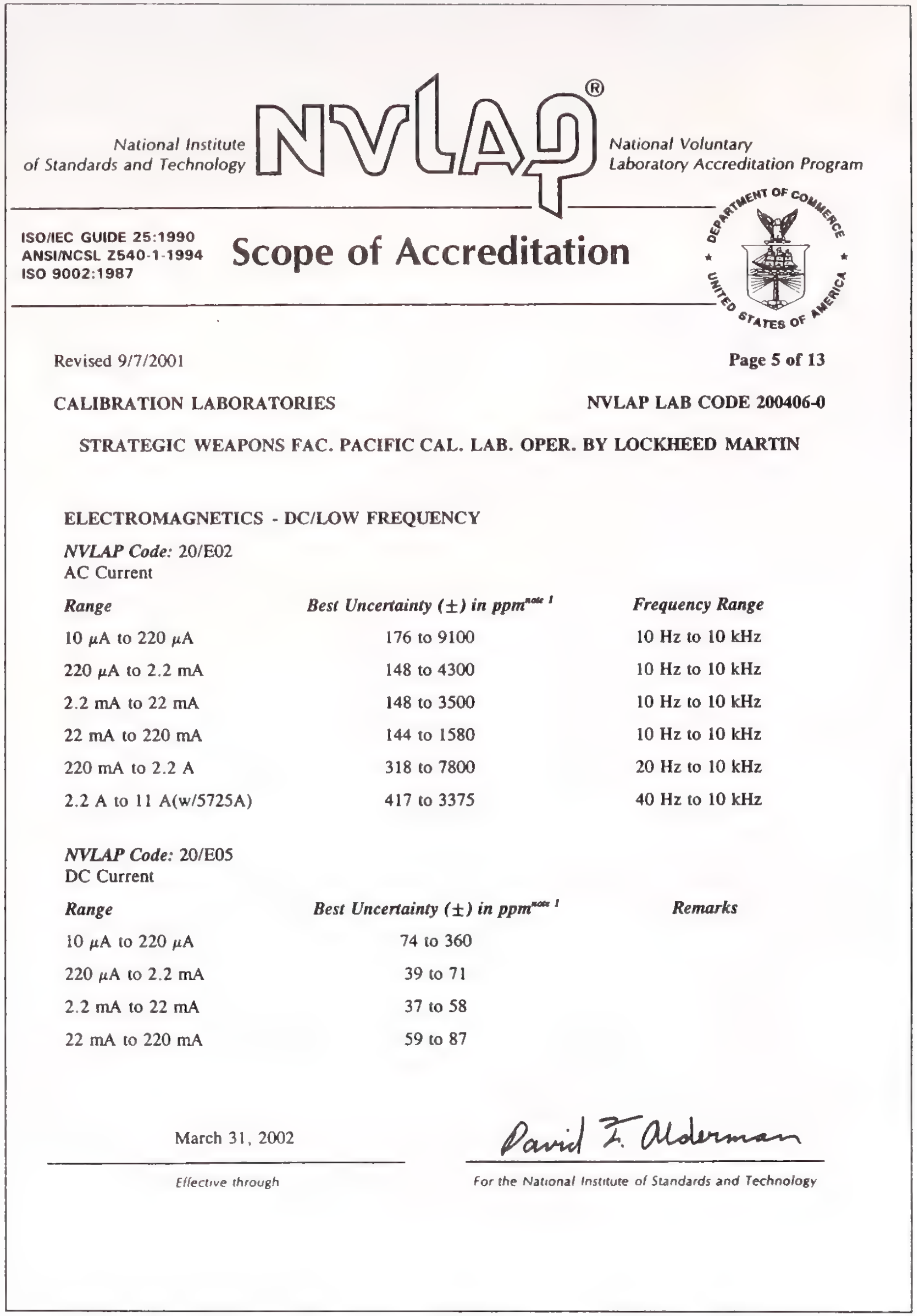

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STRATEGIC WEAPONS FAC. PACIFIC CAL. LAB. OPER. BY LOCKHEED MARTIN

ELECTROMAGNETICS - DC/LOW FREQUENCY

NVLAP Code: 20/E02
AC Current

Range	*Best Uncertainty* (±) *in ppm*$^{\text{note 1}}$	*Frequency Range*
10 µA to 220 µA	176 to 9100	10 Hz to 10 kHz
220 µA to 2.2 mA	148 to 4300	10 Hz to 10 kHz
2.2 mA to 22 mA	148 to 3500	10 Hz to 10 kHz
22 mA to 220 mA	144 to 1580	10 Hz to 10 kHz
220 mA to 2.2 A	318 to 7800	20 Hz to 10 kHz
2.2 A to 11 A(w/5725A)	417 to 3375	40 Hz to 10 kHz

NVLAP Code: 20/E05
DC Current

Range	*Best Uncertainty* (±) *in ppm*$^{\text{note 1}}$	*Remarks*
10 µA to 220 µA	74 to 360	
220 µA to 2.2 mA	39 to 71	
2.2 mA to 22 mA	37 to 58	
22 mA to 220 mA	59 to 87	

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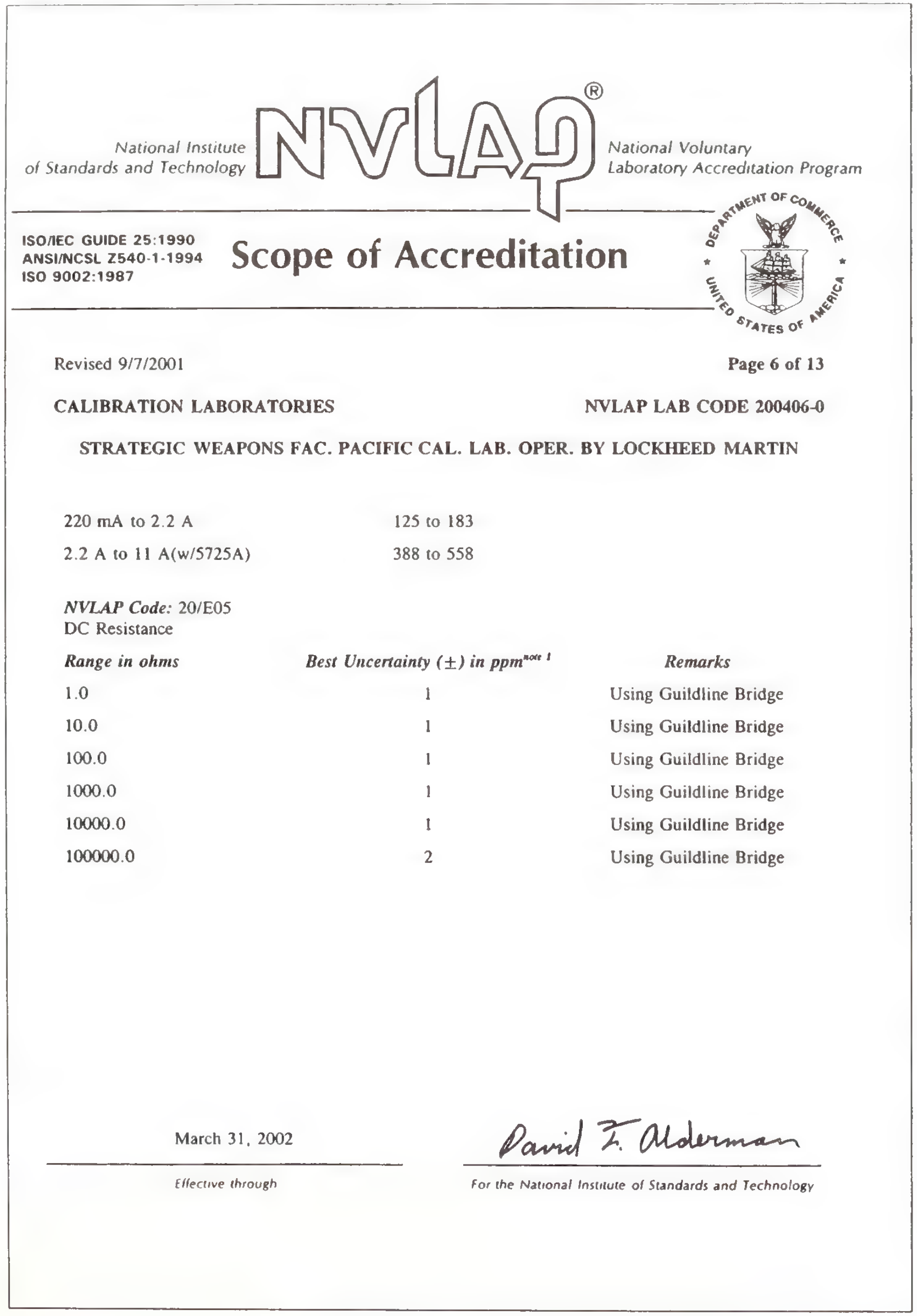

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220 mA to 2.2 A	125 to 183
2.2 A to 11 A(w/5725A)	388 to 558

NVLAP Code: 20/E05
DC Resistance

Range in ohms	***Best Uncertainty (±) in ppm***[note 1]	***Remarks***
1.0	1	Using Guildline Bridge
10.0	1	Using Guildline Bridge
100.0	1	Using Guildline Bridge
1000.0	1	Using Guildline Bridge
10000.0	1	Using Guildline Bridge
100000.0	2	Using Guildline Bridge

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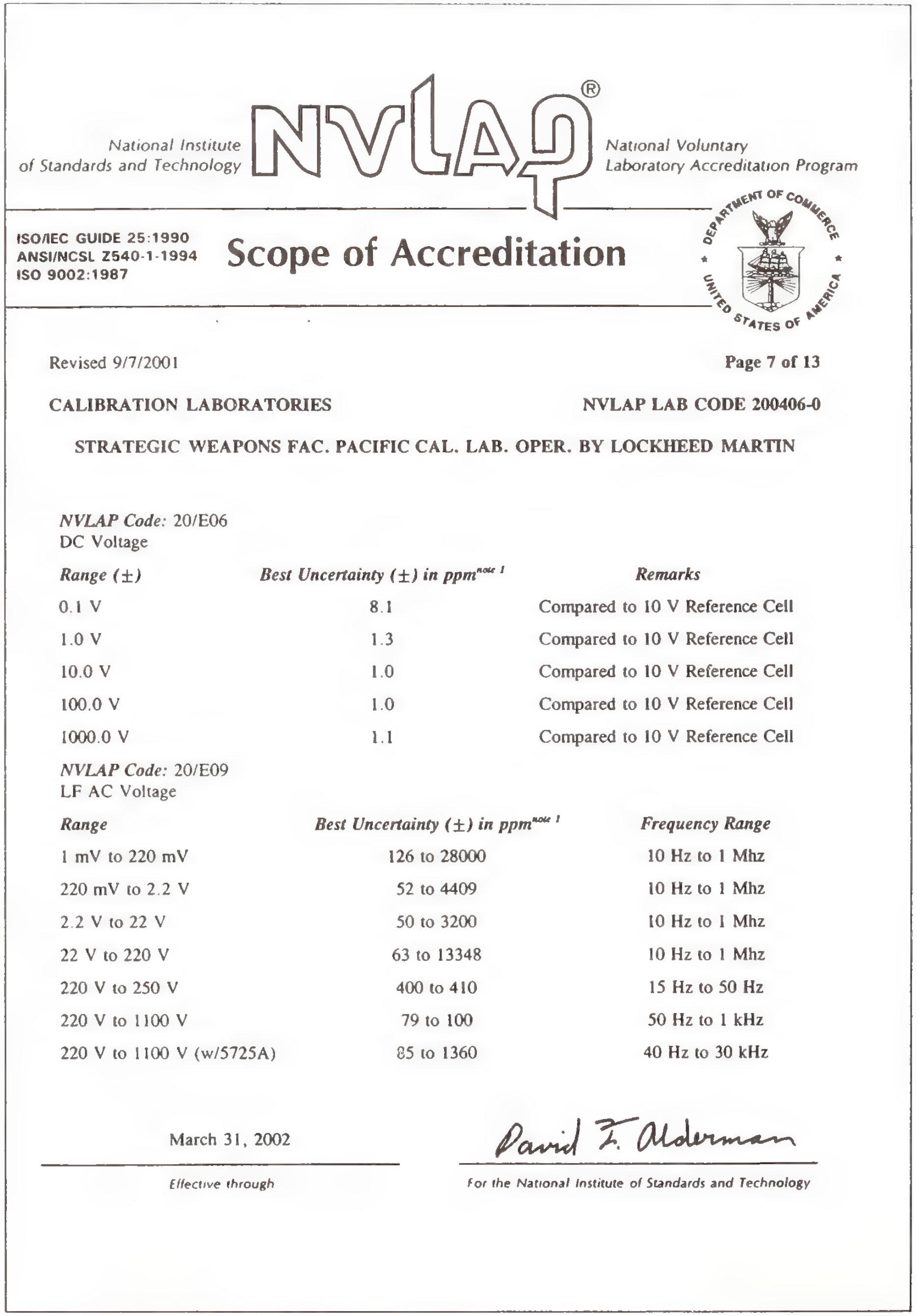

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NVLAP Code: 20/E06
DC Voltage

Range (±)	***Best Uncertainty (±) in ppm***[note 1]	***Remarks***
0.1 V	8.1	Compared to 10 V Reference Cell
1.0 V	1.3	Compared to 10 V Reference Cell
10.0 V	1.0	Compared to 10 V Reference Cell
100.0 V	1.0	Compared to 10 V Reference Cell
1000.0 V	1.1	Compared to 10 V Reference Cell

NVLAP Code: 20/E09
LF AC Voltage

Range	***Best Uncertainty (±) in ppm***[note 1]	***Frequency Range***
1 mV to 220 mV	126 to 28000	10 Hz to 1 Mhz
220 mV to 2.2 V	52 to 4409	10 Hz to 1 Mhz
2.2 V to 22 V	50 to 3200	10 Hz to 1 Mhz
22 V to 220 V	63 to 13348	10 Hz to 1 Mhz
220 V to 250 V	400 to 410	15 Hz to 50 Hz
220 V to 1100 V	79 to 100	50 Hz to 1 kHz
220 V to 1100 V (w/5725A)	85 to 1360	40 Hz to 30 kHz

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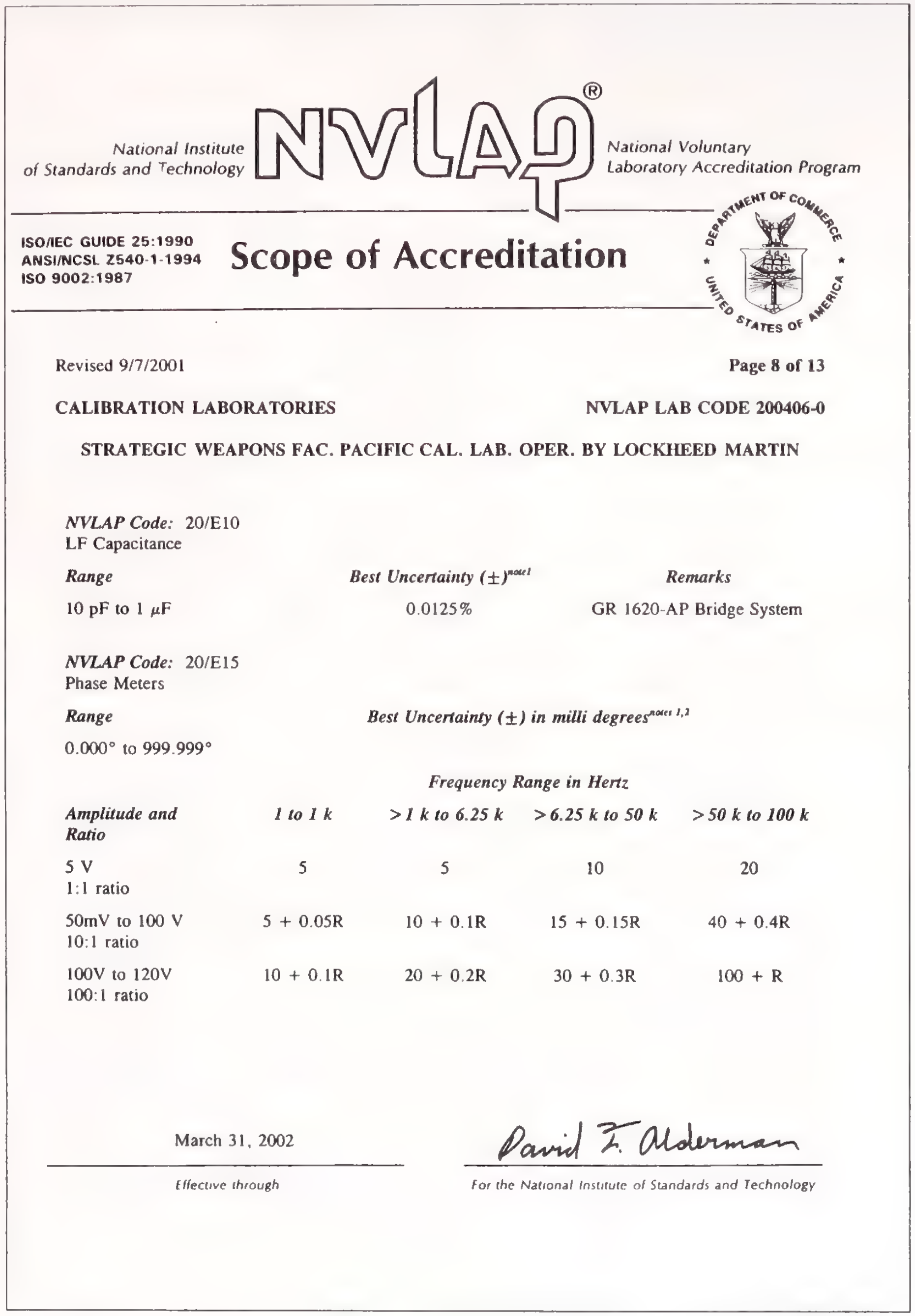

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NVLAP Code: 20/E10
LF Capacitance

Range	*Best Uncertainty* (±)$^{note 1}$	*Remarks*
10 pF to 1 μF	0.0125%	GR 1620-AP Bridge System

NVLAP Code: 20/E15
Phase Meters

Range	*Best Uncertainty (±) in milli degrees*$^{notes 1,2}$
0.000° to 999.999°	

	Frequency Range in Hertz			
Amplitude and Ratio	***1 to 1 k***	***>1 k to 6.25 k***	***>6.25 k to 50 k***	***>50 k to 100 k***
5 V 1:1 ratio	5	5	10	20
50mV to 100 V 10:1 ratio	5 + 0.05R	10 + 0.1R	15 + 0.15R	40 + 0.4R
100V to 120V 100:1 ratio	10 + 0.1R	20 + 0.2R	30 + 0.3R	100 + R

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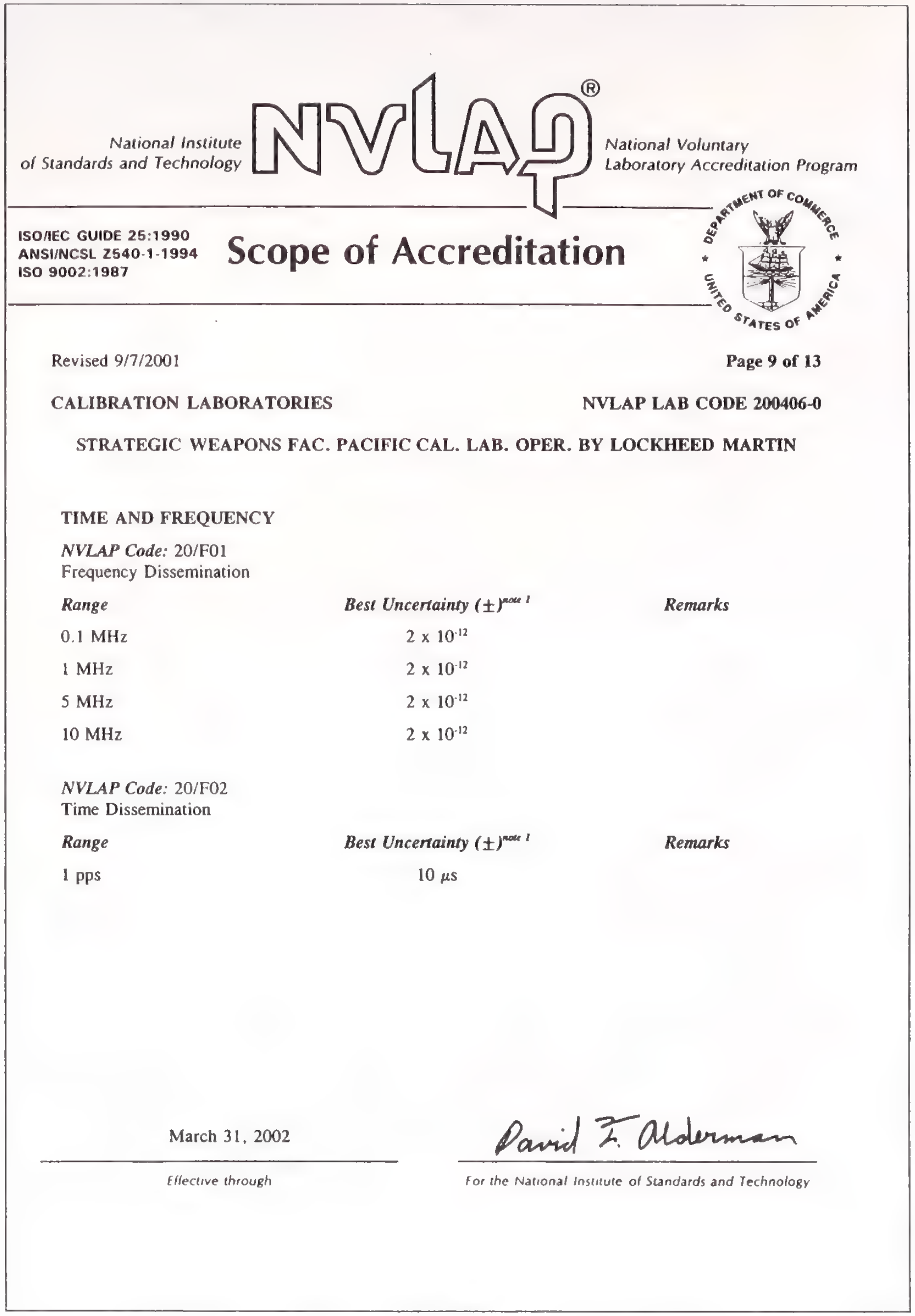

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TIME AND FREQUENCY

NVLAP Code: 20/F01
Frequency Dissemination

Range	*Best Uncertainty* (±)$^{note 1}$	*Remarks*
0.1 MHz	2 x 10^{-12}	
1 MHz	2 x 10^{-12}	
5 MHz	2 x 10^{-12}	
10 MHz	2 x 10^{-12}	

NVLAP Code: 20/F02
Time Dissemination

Range	*Best Uncertainty* (±)$^{note 1}$	*Remarks*
1 pps	10 μs	

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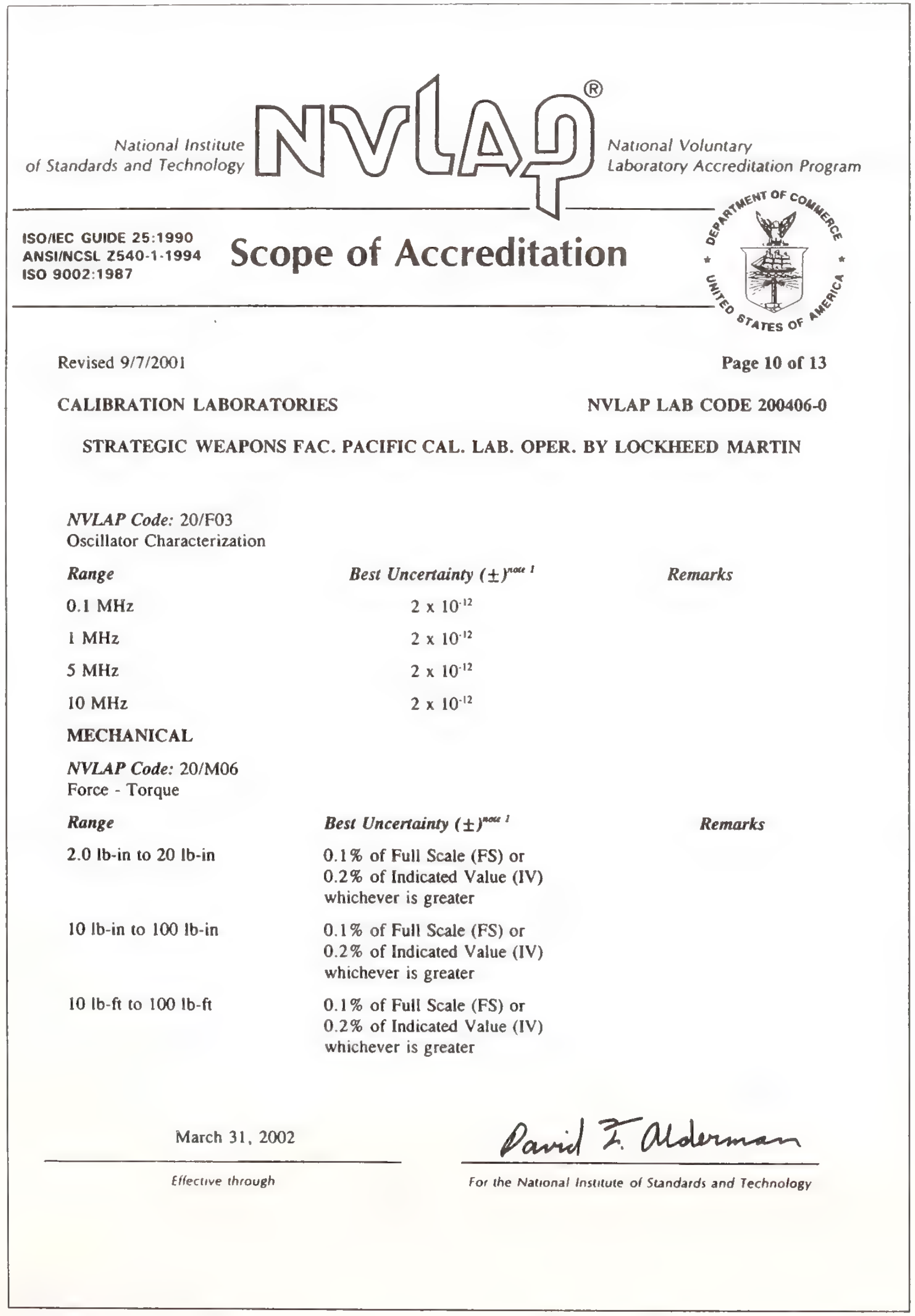

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NVLAP Code: 20/F03
Oscillator Characterization

Range	*Best Uncertainty* $(\pm)^{note\ 1}$	*Remarks*
0.1 MHz	2×10^{-12}	
1 MHz	2×10^{-12}	
5 MHz	2×10^{-12}	
10 MHz	2×10^{-12}	

MECHANICAL

NVLAP Code: 20/M06
Force - Torque

Range	*Best Uncertainty* $(\pm)^{note\ 1}$	*Remarks*
2.0 lb-in to 20 lb-in	0.1% of Full Scale (FS) or 0.2% of Indicated Value (IV) whichever is greater	
10 lb-in to 100 lb-in	0.1% of Full Scale (FS) or 0.2% of Indicated Value (IV) whichever is greater	
10 lb-ft to 100 lb-ft	0.1% of Full Scale (FS) or 0.2% of Indicated Value (IV) whichever is greater	

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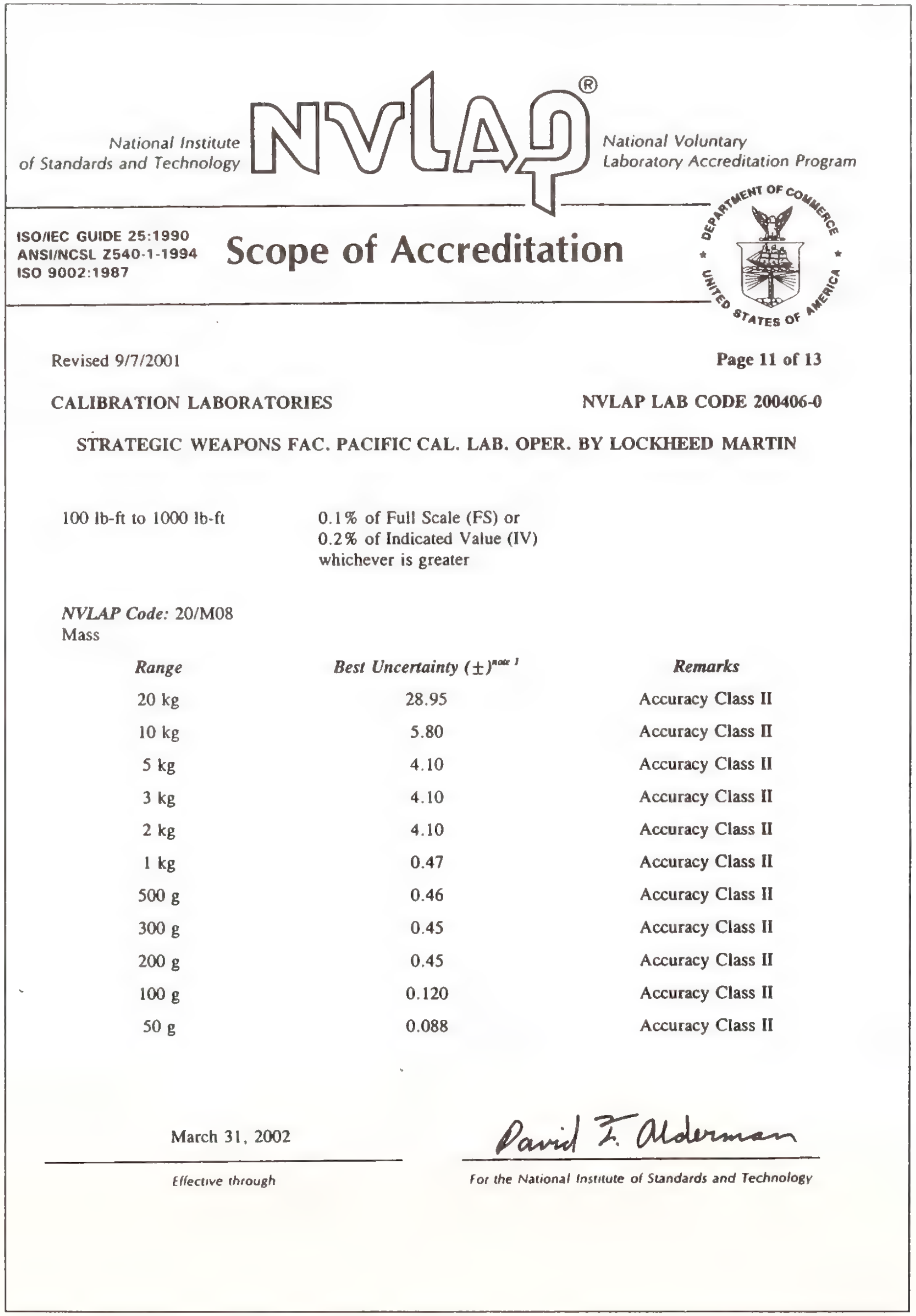

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STRATEGIC WEAPONS FAC. PACIFIC CAL. LAB. OPER. BY LOCKHEED MARTIN

100 lb-ft to 1000 lb-ft	0.1% of Full Scale (FS) or 0.2% of Indicated Value (IV) whichever is greater	

NVLAP Code: 20/M08
Mass

Range	*Best Uncertainty* $(\pm)^{note\ 1}$	*Remarks*
20 kg	28.95	Accuracy Class II
10 kg	5.80	Accuracy Class II
5 kg	4.10	Accuracy Class II
3 kg	4.10	Accuracy Class II
2 kg	4.10	Accuracy Class II
1 kg	0.47	Accuracy Class II
500 g	0.46	Accuracy Class II
300 g	0.45	Accuracy Class II
200 g	0.45	Accuracy Class II
100 g	0.120	Accuracy Class II
50 g	0.088	Accuracy Class II

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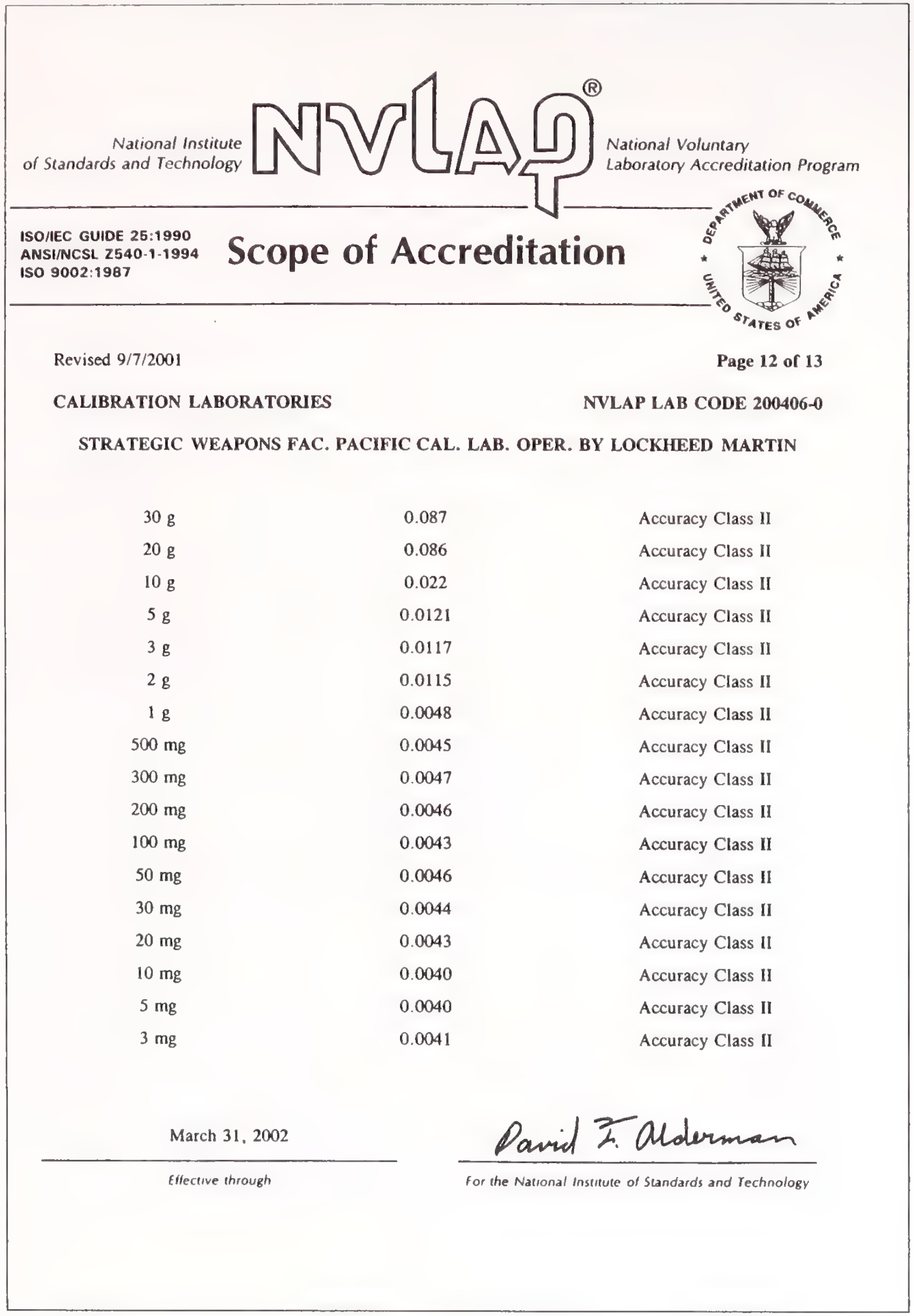

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STRATEGIC WEAPONS FAC. PACIFIC CAL. LAB. OPER. BY LOCKHEED MARTIN

30 g	0.087	Accuracy Class II
20 g	0.086	Accuracy Class II
10 g	0.022	Accuracy Class II
5 g	0.0121	Accuracy Class II
3 g	0.0117	Accuracy Class II
2 g	0.0115	Accuracy Class II
1 g	0.0048	Accuracy Class II
500 mg	0.0045	Accuracy Class II
300 mg	0.0047	Accuracy Class II
200 mg	0.0046	Accuracy Class II
100 mg	0.0043	Accuracy Class II
50 mg	0.0046	Accuracy Class II
30 mg	0.0044	Accuracy Class II
20 mg	0.0043	Accuracy Class II
10 mg	0.0040	Accuracy Class II
5 mg	0.0040	Accuracy Class II
3 mg	0.0041	Accuracy Class II

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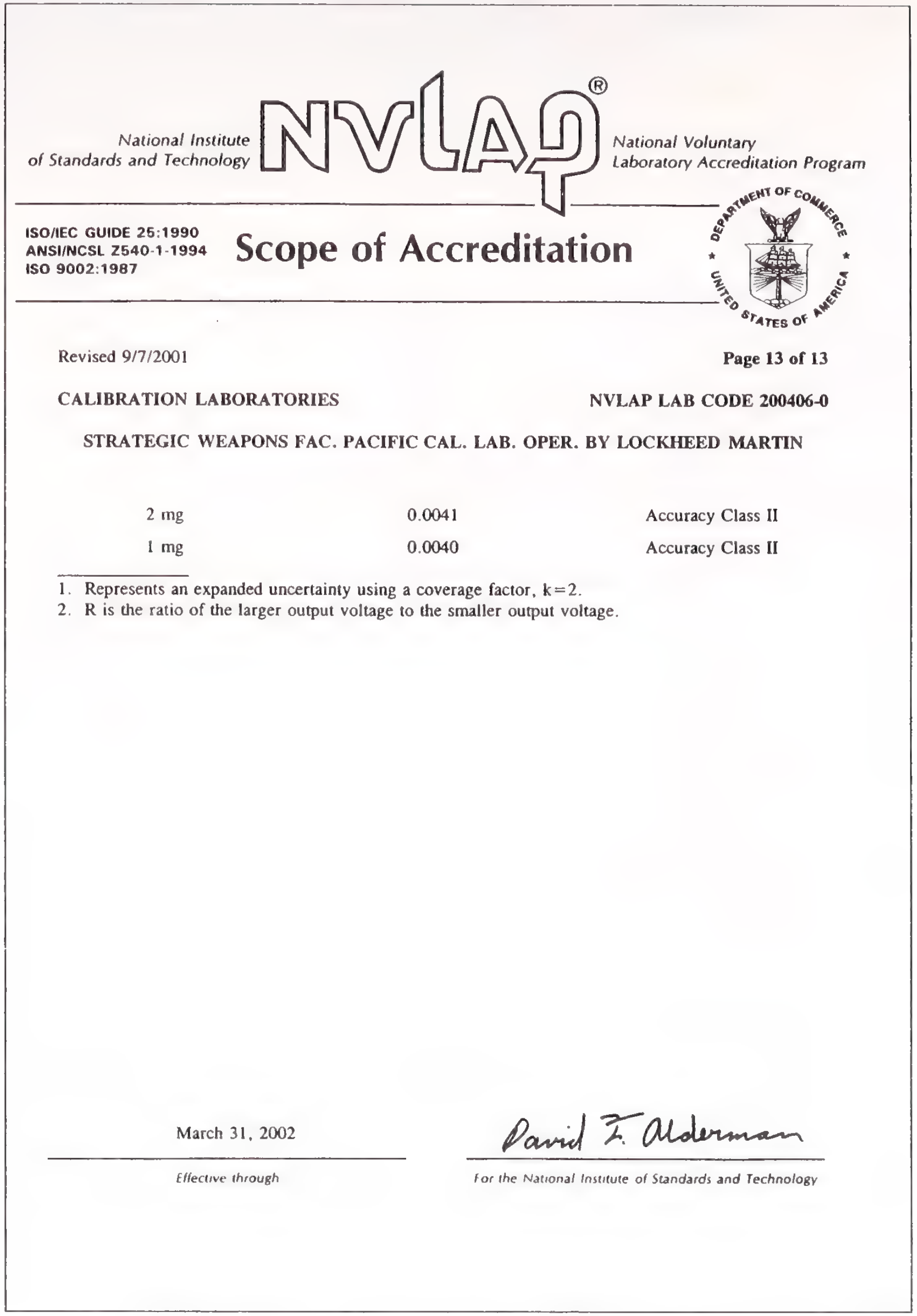

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STRATEGIC WEAPONS FAC. PACIFIC CAL. LAB. OPER. BY LOCKHEED MARTIN

2 mg	0.0041	Accuracy Class II
1 mg	0.0040	Accuracy Class II

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1. Represents an expanded uncertainty using a coverage factor, k=2.
2. R is the ratio of the larger output voltage to the smaller output voltage.

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MICHIGAN DEPT. OF AGRICULTURE, E.C. HEFRON METROLOGY LABORATORY
940 Venture Lane
Williamston, MI 48895
Mr. Ronald E. Balaze
Phone: 517-655-8202 x315 Fax: 517-655-8303
E-Mail: balazer@state.mi.us

DIMENSIONAL

NVLAP Code: 20/D13
Surveying Rods and Tapes

Range in inches	*Best Uncertainty* (±) *in inches*$^{\text{note 1}}$	*Remarks*
0 to 18	0.0029	Rigid Rules

Range in feet	*Best Uncertainty* (±) *in inches*$^{\text{note 1}}$	*Remarks*
0 to 6	0.010	Tape to Tape Method
0 to 30	0.016	Tape to Tape Method
0 to 50	0.020	Tape to Tape Method
0 to 100	0.032	Tape to Tape Method

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MICHIGAN DEPT. OF AGRICULTURE, E.C. HEFRON METROLOGY LABORATORY

MECHANICAL

NVLAP Code: 20/M06
Force

Range	*Best Uncertainty* (±) *in lbs*$^{\text{note 1}}$	*Remarks*
< =20,000 lb	40.0 lb	Wheel Load Weighers

NVLAP Code: 20/M08
Mass

Range	*Best Uncertainty* (±)$^{\text{note 1}}$	*Remarks*
20 kg	16 mg	Echelon I and II
10 kg	2.4 mg	Echelon I and II
5 kg	2.0 mg	Echelon I and II
3 kg	1.8 mg	Echelon I and II
2 kg	1.6 mg	Echelon I and II
1 kg	0.074 mg	Echelon I and II
500 g	0.082 mg	Echelon I and II
300 g	0.072 mg	Echelon I and II
200 g	0.071 mg	Echelon I and II
100 g	0.019 mg	Echelon I and II

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CALIBRATION LABORATORIES **NVLAP LAB CODE 200408-0**

MICHIGAN DEPT. OF AGRICULTURE, E.C. HEFRON METROLOGY LABORATORY

50 g	0.024 mg	Echelon I and II
30 g	0.018 mg	Echelon I and II
20 g	0.019 mg	Echelon I and II
10 g	0.013 mg	Echelon I and II
5 g	0.0095 mg	Echelon I and II
3 g	0.0061 mg	Echelon I and II
2 g	0.0044 mg	Echelon I and II
1 g	0.0034 mg	Echelon I and II
500 mg	0.0028 mg	Echelon I and II
300 mg	0.0026 mg	Echelon I and II
200 mg	0.0022 mg	Echelon I and II
100 mg	0.0023 mg	Echelon I and II
50 mg	0.0015 mg	Echelon I and II
30 mg	0.0015 mg	Echelon I and II
20 mg	0.00092 mg	Echelon I and II
10 mg	0.0012 mg	Echelon I and II
5 mg	0.00086 mg	Echelon I and II
3 mg	0.00087 mg	Echelon I and II

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MICHIGAN DEPT. OF AGRICULTURE, E.C. HEFRON METROLOGY LABORATORY

2 mg	0.0009 mg	Echelon I and II
1 mg	0.00077 mg	Echelon I and II
500 kg	3100.0 mg	Echelon III
250 kg	1700.0 mg	Echelon III
50 kg	220.0 mg	Echelon III
25 kg	140.0 mg	Echelon III
20 kg	140.0 mg	Echelon III
10 kg	38.0 mg	Echelon III
5 kg	11.0 mg	Echelon III
3 kg	11.0 mg	Echelon III
2 kg	4.7 mg	Echelon III
1 kg	2.6 mg	Echelon III
500 g	2.2 mg	Echelon III
300 g	2.2 mg	Echelon III
200 g	0.22 mg	Echelon III
100 g	0.052 mg	Echelon III
50 g	0.042 mg	Echelon III

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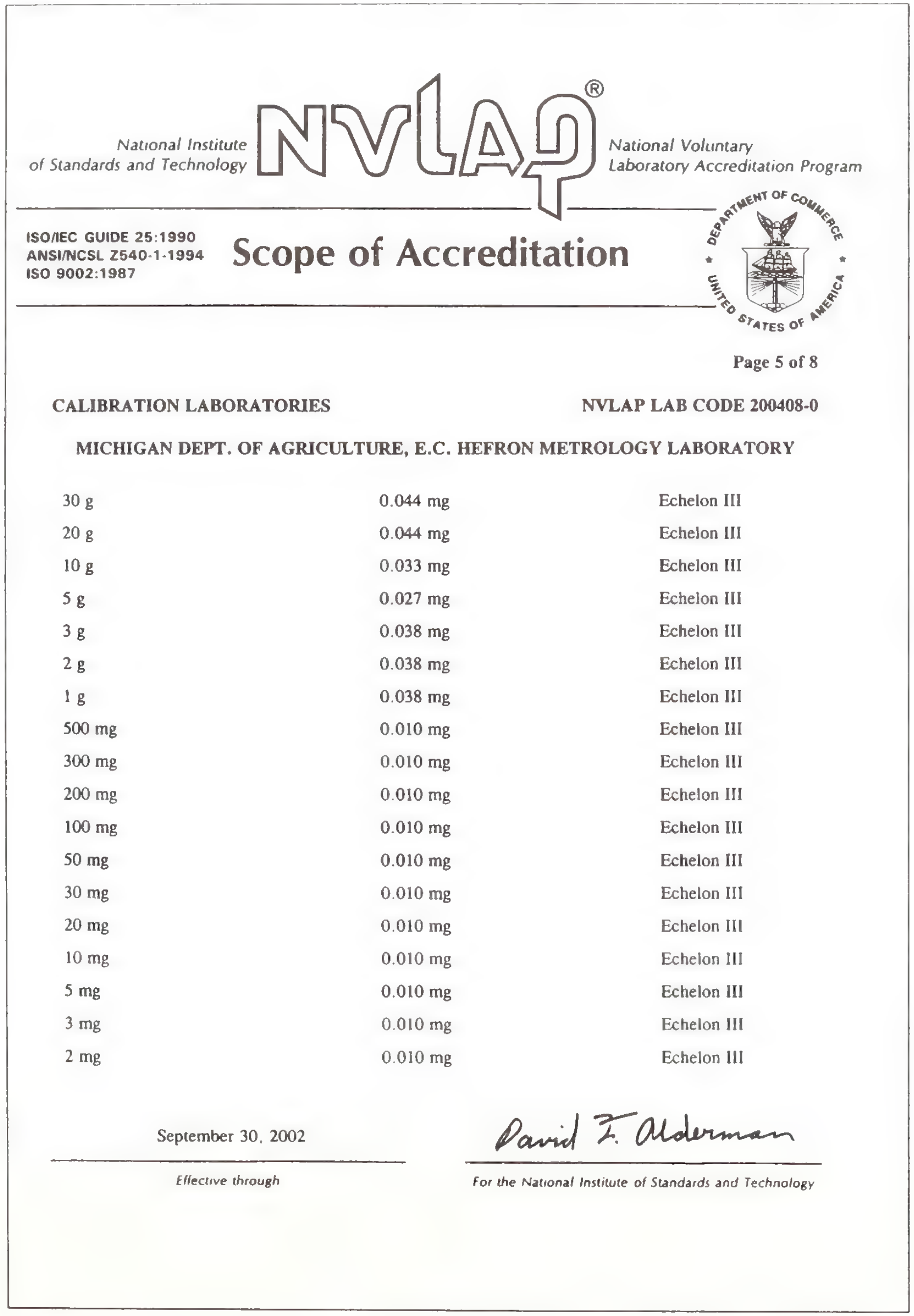

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CALIBRATION LABORATORIES **NVLAP LAB CODE 200408-0**

MICHIGAN DEPT. OF AGRICULTURE, E.C. HEFRON METROLOGY LABORATORY

30 g	0.044 mg	Echelon III
20 g	0.044 mg	Echelon III
10 g	0.033 mg	Echelon III
5 g	0.027 mg	Echelon III
3 g	0.038 mg	Echelon III
2 g	0.038 mg	Echelon III
1 g	0.038 mg	Echelon III
500 mg	0.010 mg	Echelon III
300 mg	0.010 mg	Echelon III
200 mg	0.010 mg	Echelon III
100 mg	0.010 mg	Echelon III
50 mg	0.010 mg	Echelon III
30 mg	0.010 mg	Echelon III
20 mg	0.010 mg	Echelon III
10 mg	0.010 mg	Echelon III
5 mg	0.010 mg	Echelon III
3 mg	0.010 mg	Echelon III
2 mg	0.010 mg	Echelon III

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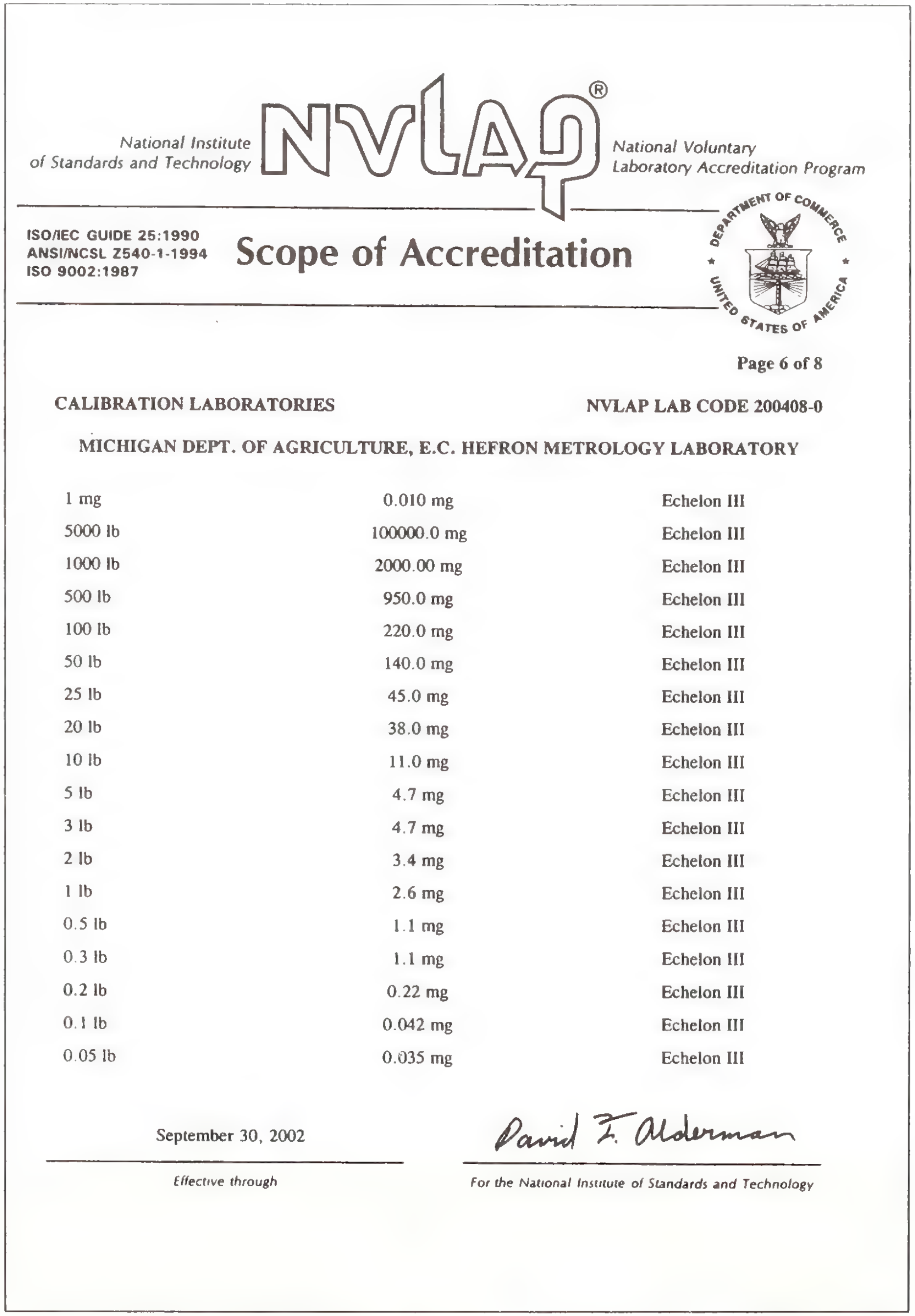

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CALIBRATION LABORATORIES **NVLAP LAB CODE 200408-0**

MICHIGAN DEPT. OF AGRICULTURE, E.C. HEFRON METROLOGY LABORATORY

1 mg	0.010 mg	Echelon III
5000 lb	100000.0 mg	Echelon III
1000 lb	2000.00 mg	Echelon III
500 lb	950.0 mg	Echelon III
100 lb	220.0 mg	Echelon III
50 lb	140.0 mg	Echelon III
25 lb	45.0 mg	Echelon III
20 lb	38.0 mg	Echelon III
10 lb	11.0 mg	Echelon III
5 lb	4.7 mg	Echelon III
3 lb	4.7 mg	Echelon III
2 lb	3.4 mg	Echelon III
1 lb	2.6 mg	Echelon III
0.5 lb	1.1 mg	Echelon III
0.3 lb	1.1 mg	Echelon III
0.2 lb	0.22 mg	Echelon III
0.1 lb	0.042 mg	Echelon III
0.05 lb	0.035 mg	Echelon III

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MICHIGAN DEPT. OF AGRICULTURE, E.C. HEFRON METROLOGY LABORATORY

0.03 lb	0.035 mg	Echelon III
0.02 lb	0.035 mg	Echelon III
0.01 lb	0.035 mg	Echelon III
0.005 lb	0.035 mg	Echelon III
0.003 lb	0.035 mg	Echelon III
0.002 lb	0.035 mg	Echelon III
0.001 lb	0.035 mg	Echelon III

NVLAP Code: 20/M12
Volume and Density

Range	*Best Uncertainty* (±)[note 1]	*Remarks*
2000 gallon	91.0 in^3	Volume Transfer
1500 gallon	68.0 in^3	Volume Transfer
1000 gallon	58.0 in^3	Volume Transfer
750 gallon	43.0 in^3	Volume Transfer
500 gallon	23.0 in^3	Volume Transfer
100 gallon	3.6 in^3	Volume Transfer
50 gallon	3.0 in^3	Volume Transfer

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CALIBRATION LABORATORIES **NVLAP LAB CODE 200408-0**

MICHIGAN DEPT. OF AGRICULTURE, E.C. HEFRON METROLOGY LABORATORY

25 gallon	2.8 in^3	Volume Transfer
5 gallon	0.50 in^3	Volume Transfer
25 gallon	0.46 in^3	Volume Gravimetric
5 gallon	0.17 in^3	Volume Gravimetric
1 gallon	0.030 in^3	Volume Gravimetric
1/2 gallon	0.024 in^3	Volume Gravimetric
1 quart	0.026 in^3	Volume Gravimetric
1 pint	0.012 in^3	Volume Gravimetric
1/2 pint	0.0061 in^3	Volume Gravimetric
2 liter	0.17 in^3	Volume Gravimetric
1 liter	0.019 in^3	Volume Gravimetric
100 ml	0.014 in^3	Volume Gravimetric

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1. Represents an expanded uncertainty using a coverage factor, k = 2.

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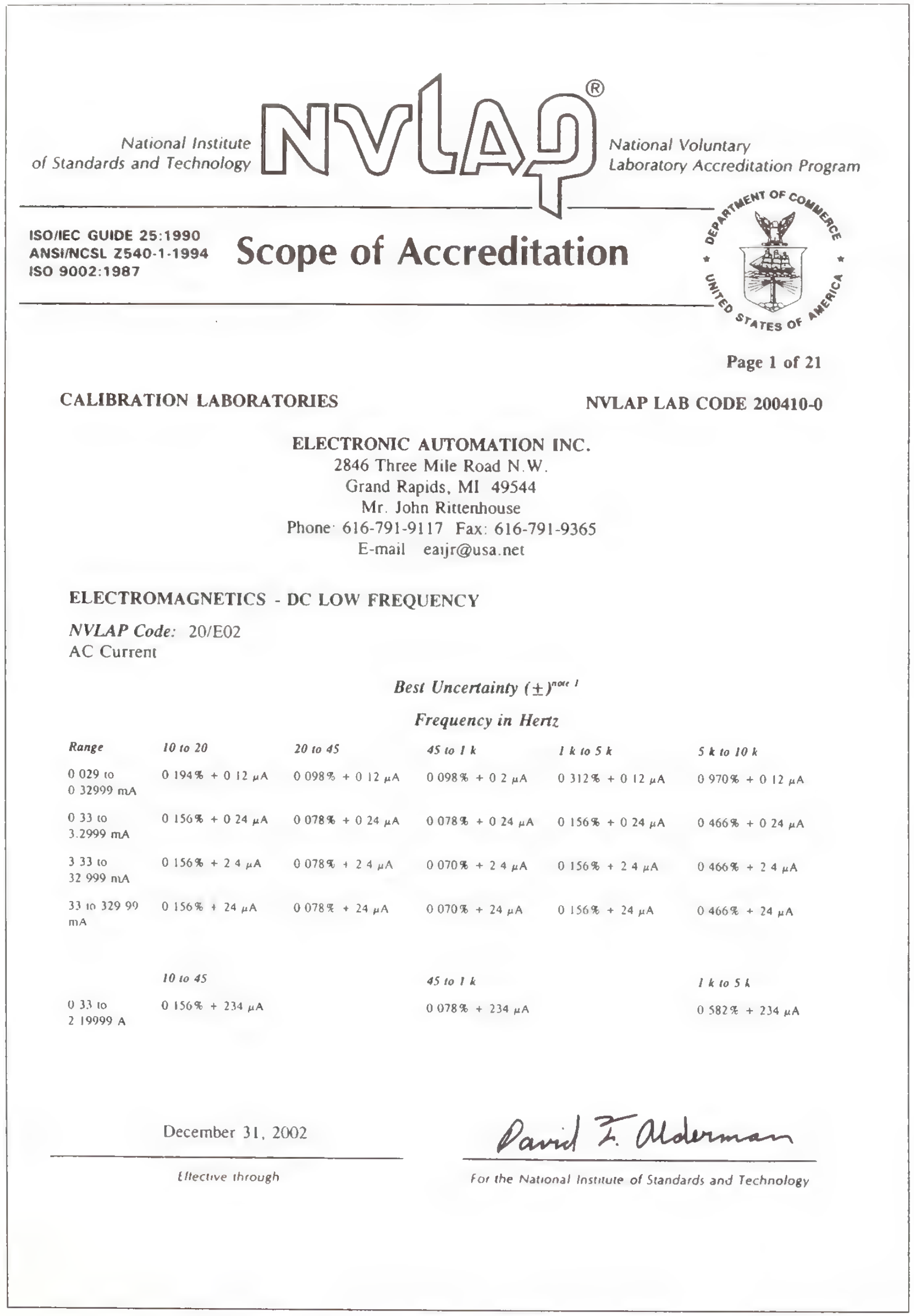

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CALIBRATION LABORATORIES

NVLAP LAB CODE 200410-0

ELECTRONIC AUTOMATION INC.
2846 Three Mile Road N.W.
Grand Rapids, MI 49544
Mr. John Rittenhouse
Phone: 616-791-9117 Fax: 616-791-9365
E-mail eaijr@usa.net

ELECTROMAGNETICS - DC LOW FREQUENCY

NVLAP Code: 20/E02
AC Current

Best Uncertainty (±)[note 1]

Frequency in Hertz

Range	*10 to 20*	*20 to 45*	*45 to 1 k*	*1 k to 5 k*	*5 k to 10 k*
0 029 to 0 32999 mA	0 194% + 0 12 μA	0 098% + 0 12 μA	0 098% + 0 2 μA	0 312% + 0 12 μA	0 970% + 0 12 μA
0 33 to 3.2999 mA	0 156% + 0 24 μA	0 078% + 0 24 μA	0 078% + 0 24 μA	0 156% + 0 24 μA	0 466% + 0 24 μA
3 33 to 32 999 mA	0 156% + 2 4 μA	0 078% + 2 4 μA	0 070% + 2 4 μA	0 156% + 2 4 μA	0 466% + 2 4 μA
33 to 329 99 mA	0 156% + 24 μA	0 078% + 24 μA	0 070% + 24 μA	0 156% + 24 μA	0 466% + 24 μA

	10 to 45	*45 to 1 k*	*1 k to 5 k*
0 33 to 2 19999 A	0 156% + 234 μA	0 078% + 234 μA	0 582% + 234 μA

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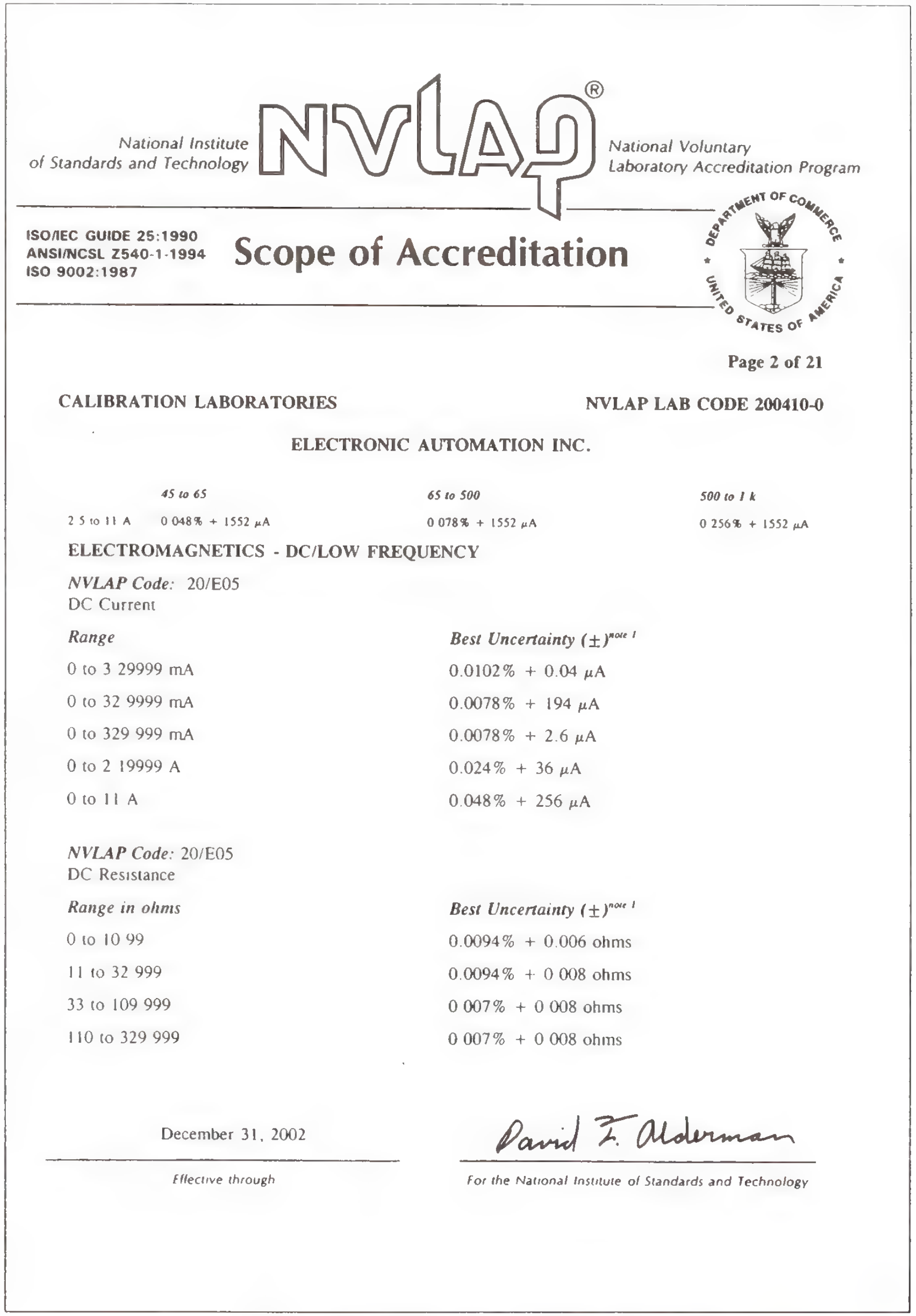

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CALIBRATION LABORATORIES

NVLAP LAB CODE 200410-0

ELECTRONIC AUTOMATION INC.

	45 to 65	*65 to 500*	*500 to 1 k*
2 5 to 11 A	0 048% + 1552 μA	0 078% + 1552 μA	0 256% + 1552 μA

ELECTROMAGNETICS - DC/LOW FREQUENCY

NVLAP Code: 20/E05
DC Current

Range	*Best Uncertainty* (±)[note 1]
0 to 3 29999 mA	0.0102% + 0.04 μA
0 to 32 9999 mA	0.0078% + 194 μA
0 to 329 999 mA	0.0078% + 2.6 μA
0 to 2 19999 A	0.024% + 36 μA
0 to 11 A	0.048% + 256 μA

NVLAP Code: 20/E05
DC Resistance

Range in ohms	*Best Uncertainty* (±)[note 1]
0 to 10 99	0.0094% + 0.006 ohms
11 to 32 999	0.0094% + 0 008 ohms
33 to 109 999	0 007% + 0 008 ohms
110 to 329 999	0 007% + 0 008 ohms

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ELECTRONIC AUTOMATION INC.

0.330 k to 1.09999 k	0.007% + 0.048 ohms
1.1 k to 3.29999 k	0.007% + 0.048 ohms
3.3 k to 10.9999 k	0.007% + 0.48 ohms
11 k to 32.9999 k	0.007% + 0.48 ohms
33 k to 109.999 k	0.0086% + 4.8 ohms
110 k to 329.999 k	0.0094% + 4.8 ohms
0.33 M to 1.09999 M	0.0118% + 44 ohms
1.1 M to 3.29999 M	0.0118% + 44 ohms
3.3 M to 10.9999 M	0.048% + 428 ohms
11 M to 32.9999 M	0.078% + 428 ohms
33 M to 109.999 M	0.388% + 4264 ohms
110 M to 330 M	0.388% + 12792 ohms

NVLAP Code: 20/E06
DC Voltage

Range	*Best Uncertainty (±)*$^{\text{note 1}}$
0 to 329.9999 mV	0.0048% + 2.4 μV
0 to 3.299999 V	0.004% + 4 μV

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ELECTRONIC AUTOMATION INC.

0 to 32.99999 V	0.004% + 40 μV
30 to 329.9999 V	0.0044% + 388 μV
100 to 1000.000 V	0.0044% + 1164 μV

NVLAP Code: 20/E09
LF AC Voltage

Best Uncertainty (±)$^{\text{note 1}}$

Frequency in Hertz

Range	*10 to 45*	*45 to 10 k*	*10 k to 20 k*	*20 k to 50 k*	*50 k to 100 k*	*100 k to 500 k*
1.0 to 32.999 mV	0.274% + 16 μV	0.118% + 16 μV	0.156% + 16 μV	0.194% + 16 μV	0.274% + 26 μV	0.776% + 48 μV
33 to 329.999 mV	0.194% + 40 μV	0.040% + 16 μV	0.078% + 16 μV	0.126% + 32 μV	0.188% + 132 μV	0.544% + 256 μV
0.33 to 3.29999 V	0.118% + 194 μV	0.024% + 48 μV	0.064% + 48 μV	0.110% + 234 μV	0.188% + 1318 μV	0.388% + 2560 μV
3.3 to 32.9999 V	0.118% + 1938 μV	0.032% + 466 μV	0.064% + 2016 μV	0.148% + 3876 μV	0.188% + 13180 μV	
33 to 329.999 V	0.040% to 5.2 mV	0.064% + 12 mV	0.070% + 26 mV			
330 to 1000 V	0.040% to 64 mV	0.156% + 78 mV	0.156% + 388 mV			

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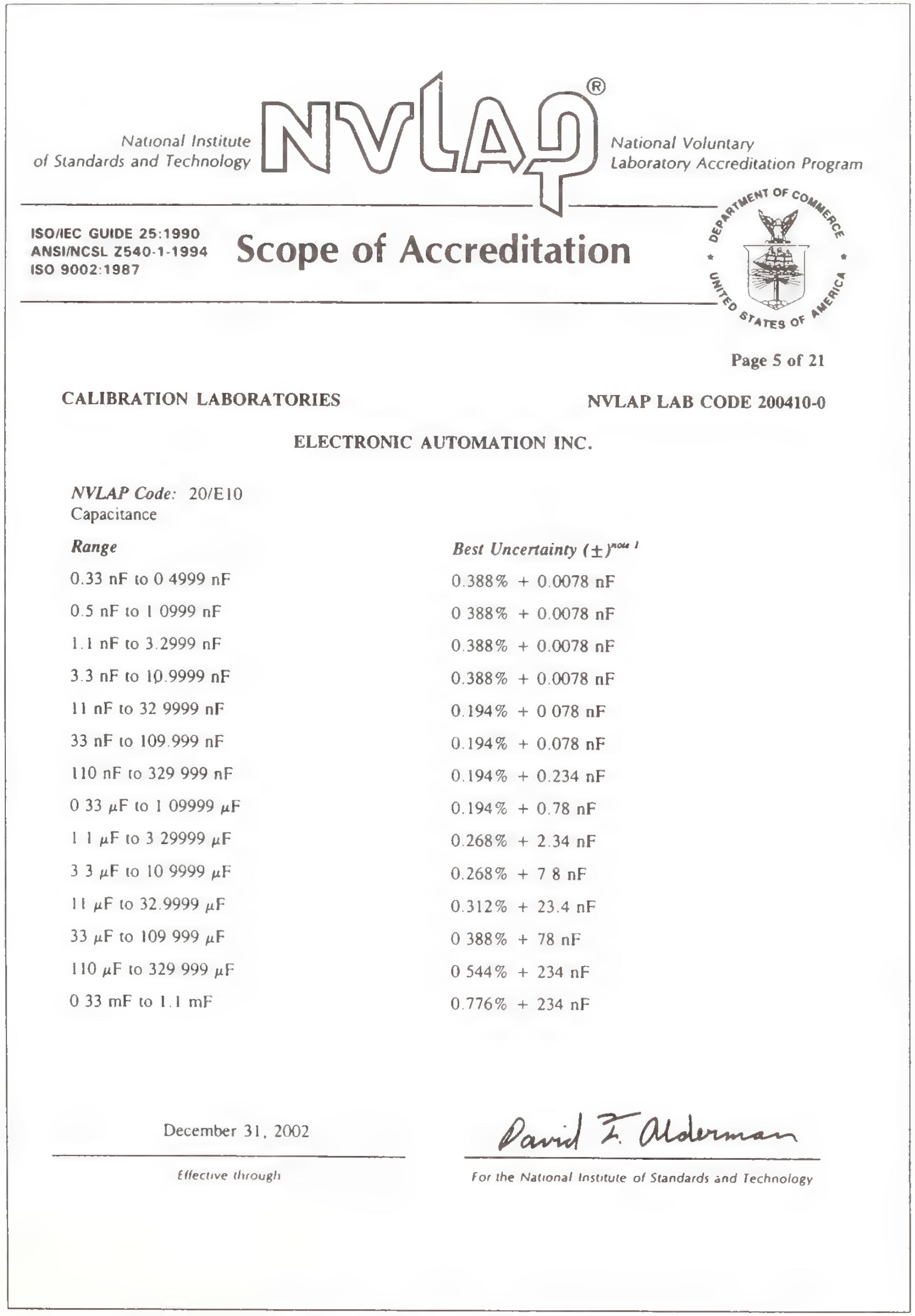

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CALIBRATION LABORATORIES **NVLAP LAB CODE 200410-0**

ELECTRONIC AUTOMATION INC.

NVLAP Code: 20/E10
Capacitance

Range	*Best Uncertainty* (±)[note 1]
0.33 nF to 0.4999 nF	0.388% + 0.0078 nF
0.5 nF to 1.0999 nF	0.388% + 0.0078 nF
1.1 nF to 3.2999 nF	0.388% + 0.0078 nF
3.3 nF to 10.9999 nF	0.388% + 0.0078 nF
11 nF to 32.9999 nF	0.194% + 0.078 nF
33 nF to 109.999 nF	0.194% + 0.078 nF
110 nF to 329.999 nF	0.194% + 0.234 nF
0.33 μF to 1.09999 μF	0.194% + 0.78 nF
1.1 μF to 3.29999 μF	0.268% + 2.34 nF
3.3 μF to 10.9999 μF	0.268% + 7.8 nF
11 μF to 32.9999 μF	0.312% + 23.4 nF
33 μF to 109.999 μF	0.388% + 78 nF
110 μF to 329.999 μF	0.544% + 234 nF
0.33 mF to 1.1 mF	0.776% + 234 nF

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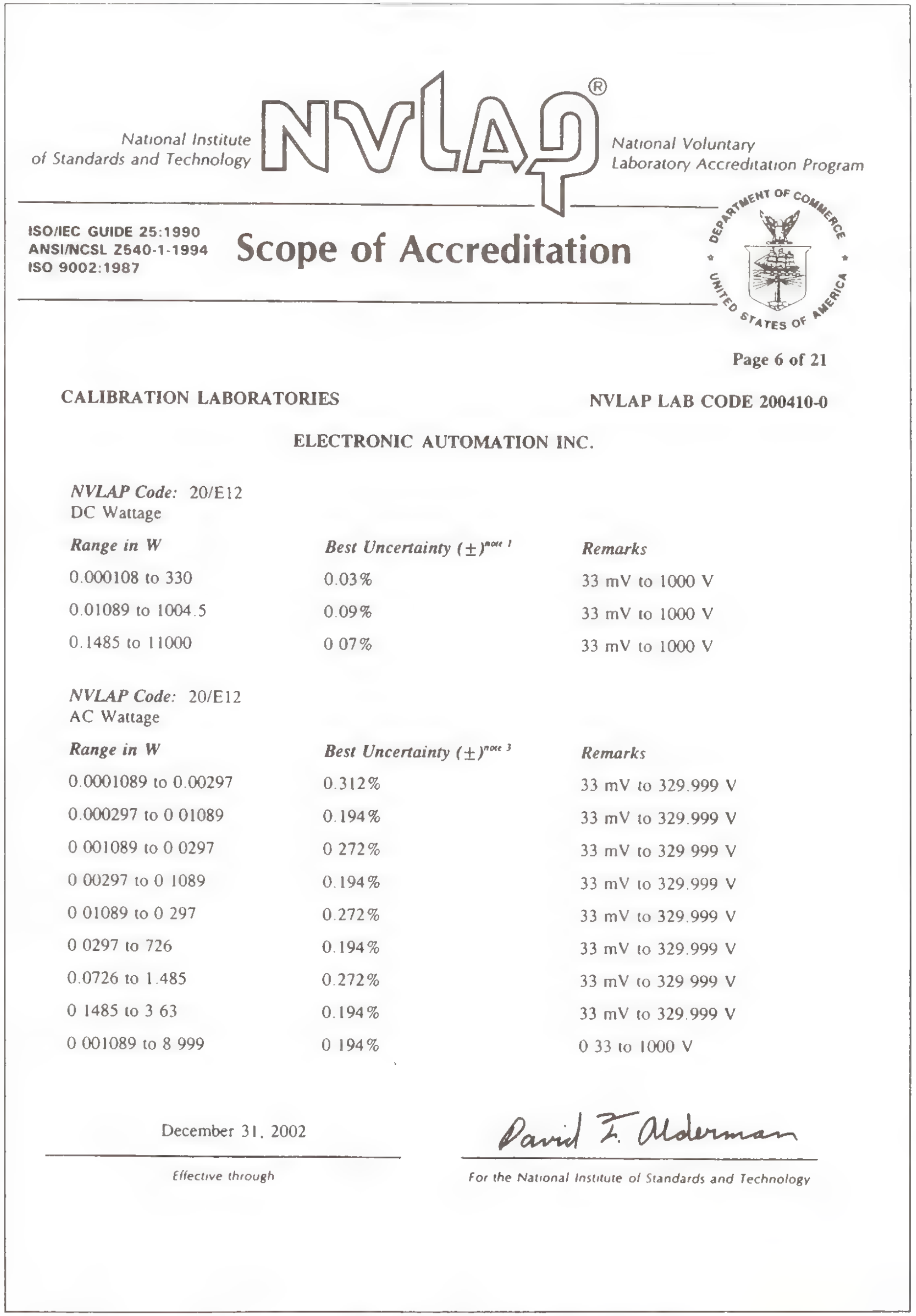

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ELECTRONIC AUTOMATION INC.

NVLAP Code: 20/E12
DC Wattage

Range in W	*Best Uncertainty* (±)[note 1]	*Remarks*
0.000108 to 330	0.03%	33 mV to 1000 V
0.01089 to 1004.5	0.09%	33 mV to 1000 V
0.1485 to 11000	0.07%	33 mV to 1000 V

NVLAP Code: 20/E12
AC Wattage

Range in W	*Best Uncertainty* (±)[note 3]	*Remarks*
0.0001089 to 0.00297	0.312%	33 mV to 329.999 V
0.000297 to 0.01089	0.194%	33 mV to 329.999 V
0.001089 to 0.0297	0.272%	33 mV to 329.999 V
0.00297 to 0.1089	0.194%	33 mV to 329.999 V
0.01089 to 0.297	0.272%	33 mV to 329.999 V
0.0297 to 726	0.194%	33 mV to 329.999 V
0.0726 to 1.485	0.272%	33 mV to 329.999 V
0.1485 to 3.63	0.194%	33 mV to 329.999 V
0.001089 to 8.999	0.194%	0.33 to 1000 V

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ELECTRONIC AUTOMATION INC.

0.00297 to 32.999	0.118%	0.33 to 1000 V
0.01089 to 89.99	0.194%	0.33 to 1000 V
0.0297 to 329.99	0.118%	0.33 to 1000 V
0.1089 to 899.99	0.194%	0.33 to 1000 V
0.297 to 2199.9	0.118%	0.33 to 1000 V
0.726 to 4499.9	0.156%	0.33 to 1000 V
1.485 to 11000	0.118%	0.33 to 1000 V

NVLAP Code: 20/E15
Phase Angle

Frequency Range in Hz	*Best Uncertainty (±)*$^{note\ 1}$
10 to 65	0.12°
65 to 500	0.70°
500 to 1 k	1.6°
1 k to 5 k	4.8°
5 k to 10 k	7.8°

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CALIBRATION LABORATORIES **NVLAP LAB CODE 200410-0**

ELECTRONIC AUTOMATION INC.

TIME AND FREQUENCY

NVLAP Code: 20/F01
Frequency

Range in Hz	*Best Uncertainty (±)*$^{note\ 1,7}$	*Remarks*
0.01 to 119.99	0.00194% + 0.78 mHz	(1.6 μs) Jitter
120.00 to 1199.9	0.00194% + 0.78 mHz	(1.6 μs) Jitter
1.200 to 10.000 k	0.00194% + 0.78 mHz	(1.6 μs) Jitter
10.001 to 11.999 k	0.00194% + 11.8 mHz	(109 ns) Jitter
12.00 to 119.99 k	0.00194% + 11.8 mHz	(109 ns) Jitter
120.0 to 500.0 k	0.00194% + 11.8 mHz	(109 ns) Jitter

OPTICAL RADIATION

NVLAP Code: 20/O02
Color Temperature

Range in °Kelvin	*Best Uncertainty (±) in °Kelvin*$^{note\ 1}$
2300	19.5
2856	24.8

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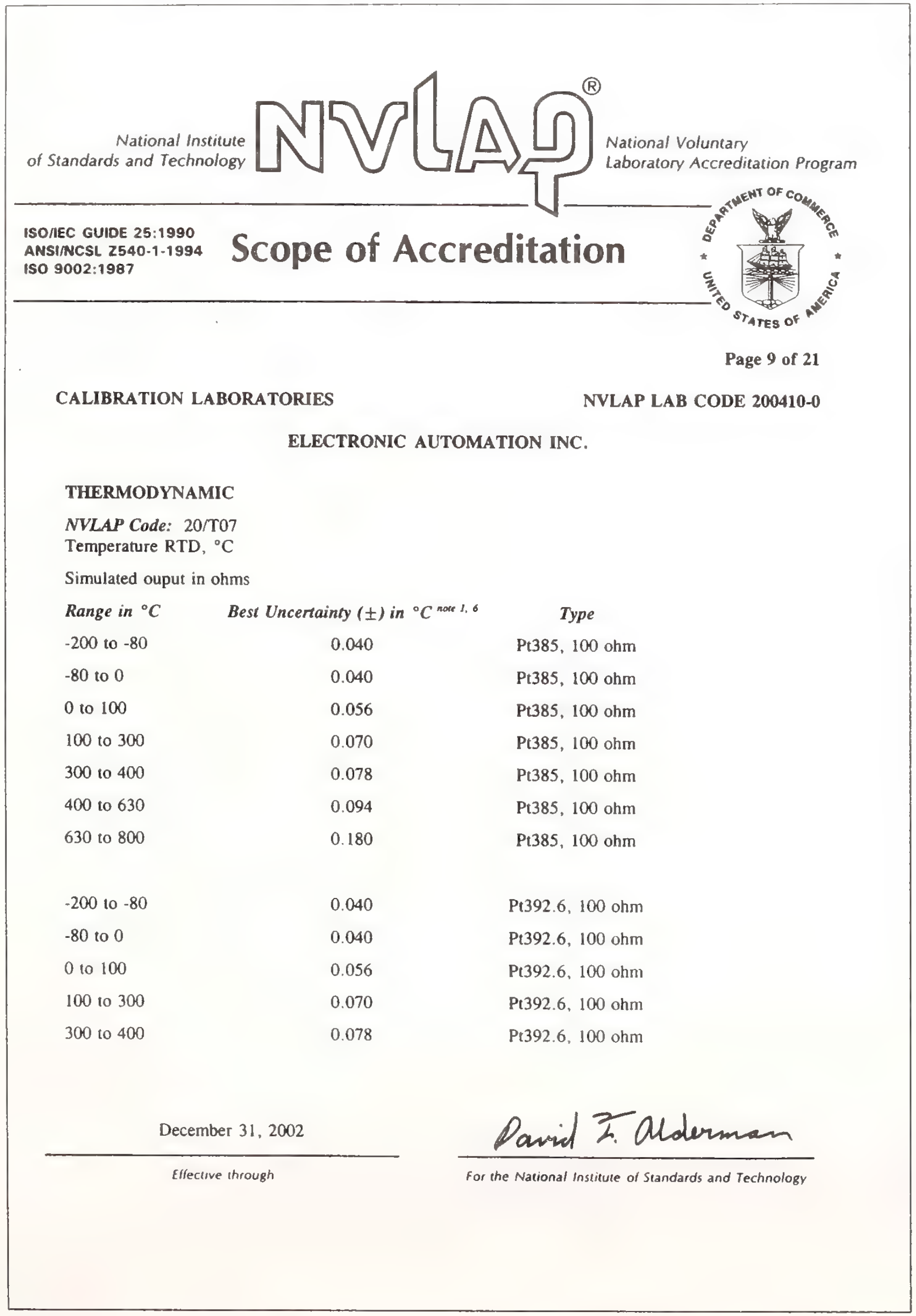

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CALIBRATION LABORATORIES **NVLAP LAB CODE 200410-0**

ELECTRONIC AUTOMATION INC.

THERMODYNAMIC

NVLAP Code: 20/T07
Temperature RTD, °C

Simulated ouput in ohms

Range in °C	*Best Uncertainty (±) in °C* note 1, 6	*Type*
-200 to -80	0.040	Pt385, 100 ohm
-80 to 0	0.040	Pt385, 100 ohm
0 to 100	0.056	Pt385, 100 ohm
100 to 300	0.070	Pt385, 100 ohm
300 to 400	0.078	Pt385, 100 ohm
400 to 630	0.094	Pt385, 100 ohm
630 to 800	0.180	Pt385, 100 ohm
-200 to -80	0.040	Pt392.6, 100 ohm
-80 to 0	0.040	Pt392.6, 100 ohm
0 to 100	0.056	Pt392.6, 100 ohm
100 to 300	0.070	Pt392.6, 100 ohm
300 to 400	0.078	Pt392.6, 100 ohm

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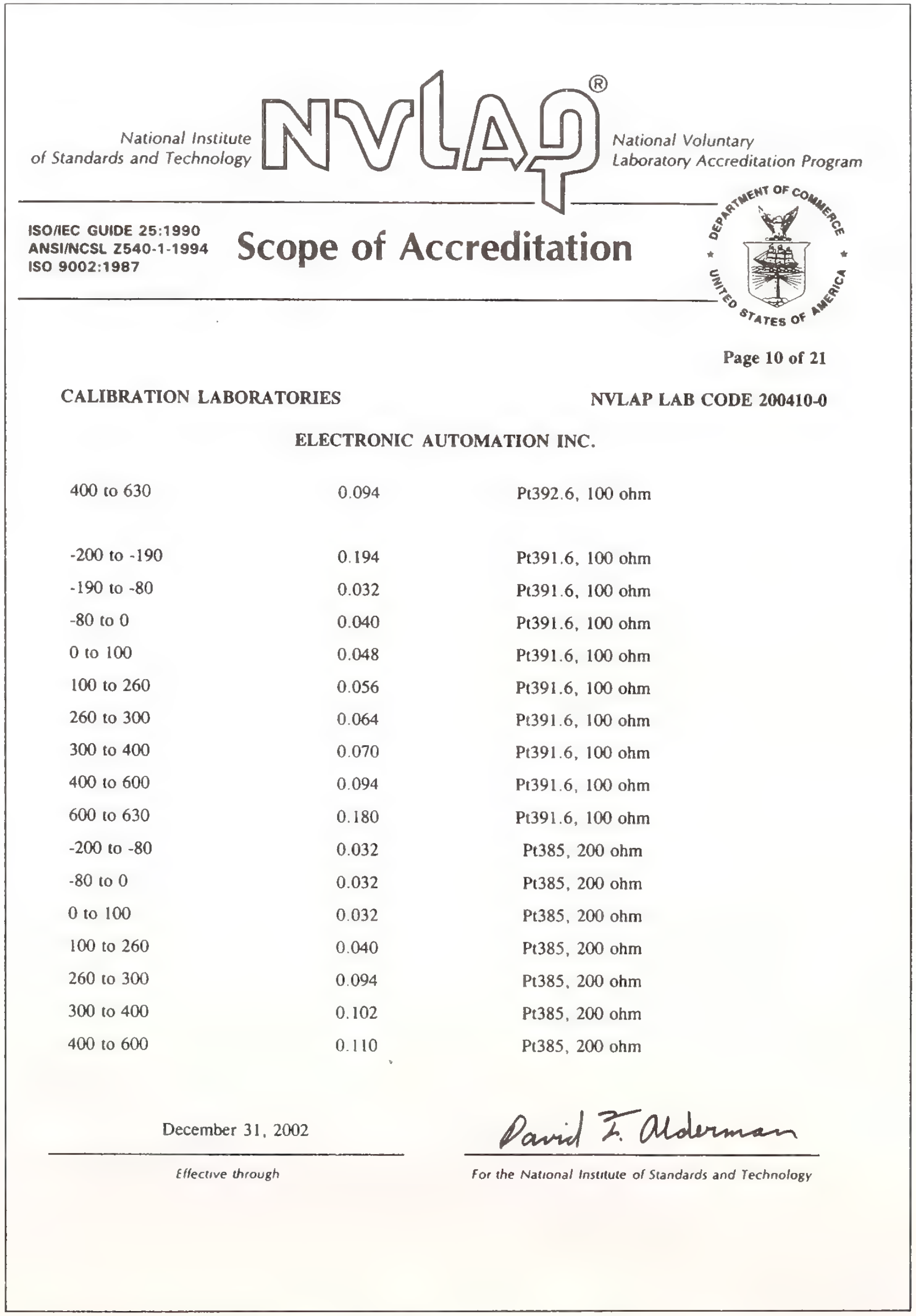

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ELECTRONIC AUTOMATION INC.

400 to 630	0.094	Pt392.6, 100 ohm
-200 to -190	0.194	Pt391.6, 100 ohm
-190 to -80	0.032	Pt391.6, 100 ohm
-80 to 0	0.040	Pt391.6, 100 ohm
0 to 100	0.048	Pt391.6, 100 ohm
100 to 260	0.056	Pt391.6, 100 ohm
260 to 300	0.064	Pt391.6, 100 ohm
300 to 400	0.070	Pt391.6, 100 ohm
400 to 600	0.094	Pt391.6, 100 ohm
600 to 630	0.180	Pt391.6, 100 ohm
-200 to -80	0.032	Pt385, 200 ohm
-80 to 0	0.032	Pt385, 200 ohm
0 to 100	0.032	Pt385, 200 ohm
100 to 260	0.040	Pt385, 200 ohm
260 to 300	0.094	Pt385, 200 ohm
300 to 400	0.102	Pt385, 200 ohm
400 to 600	0.110	Pt385, 200 ohm

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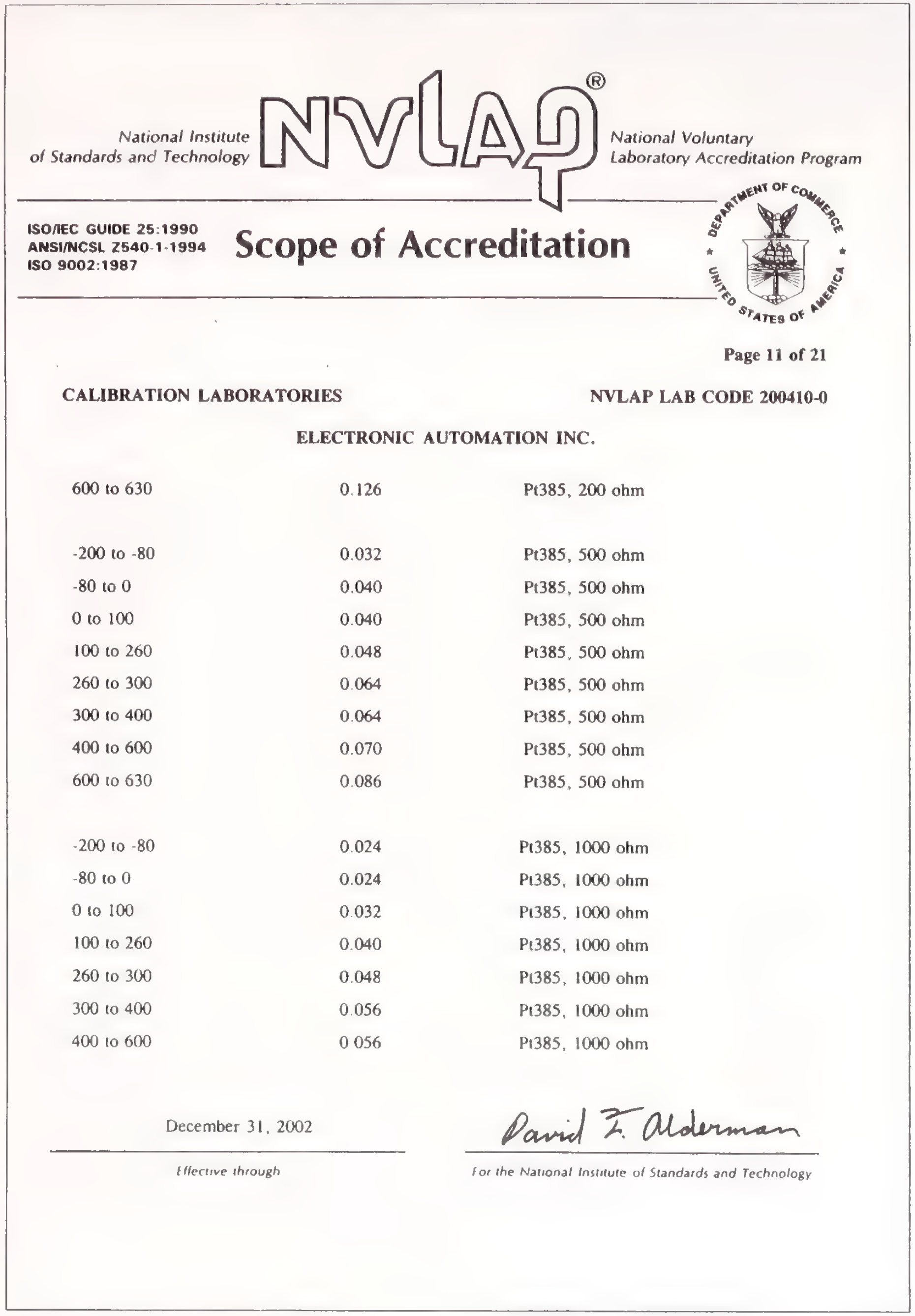

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ELECTRONIC AUTOMATION INC.

600 to 630	0.126	Pt385, 200 ohm
-200 to -80	0.032	Pt385, 500 ohm
-80 to 0	0.040	Pt385, 500 ohm
0 to 100	0.040	Pt385, 500 ohm
100 to 260	0.048	Pt385, 500 ohm
260 to 300	0.064	Pt385, 500 ohm
300 to 400	0.064	Pt385, 500 ohm
400 to 600	0.070	Pt385, 500 ohm
600 to 630	0.086	Pt385, 500 ohm
-200 to -80	0.024	Pt385, 1000 ohm
-80 to 0	0.024	Pt385, 1000 ohm
0 to 100	0.032	Pt385, 1000 ohm
100 to 260	0.040	Pt385, 1000 ohm
260 to 300	0.048	Pt385, 1000 ohm
300 to 400	0.056	Pt385, 1000 ohm
400 to 600	0 056	Pt385, 1000 ohm

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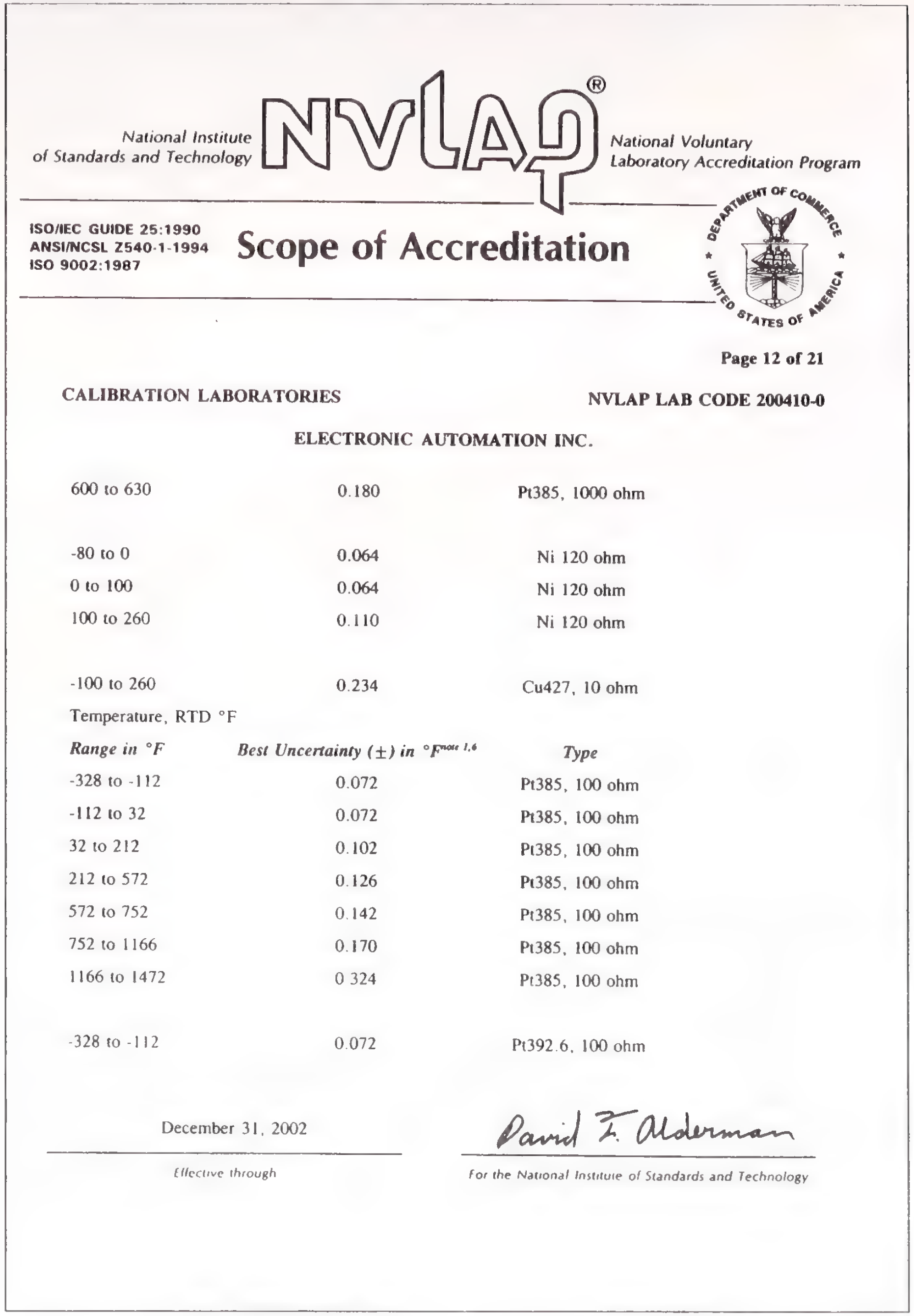

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ELECTRONIC AUTOMATION INC.

600 to 630	0.180	Pt385, 1000 ohm
-80 to 0	0.064	Ni 120 ohm
0 to 100	0.064	Ni 120 ohm
100 to 260	0.110	Ni 120 ohm
-100 to 260	0.234	Cu427, 10 ohm

Temperature, RTD °F

Range in °F	*Best Uncertainty (±) in °F*$^{\text{note 1,6}}$	*Type*
-328 to -112	0.072	Pt385, 100 ohm
-112 to 32	0.072	Pt385, 100 ohm
32 to 212	0.102	Pt385, 100 ohm
212 to 572	0.126	Pt385, 100 ohm
572 to 752	0.142	Pt385, 100 ohm
752 to 1166	0.170	Pt385, 100 ohm
1166 to 1472	0 324	Pt385, 100 ohm
-328 to -112	0.072	Pt392.6, 100 ohm

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CALIBRATION LABORATORIES **NVLAP LAB CODE 200410-0**

ELECTRONIC AUTOMATION INC.

-112 to 32	0.072	Pt392.6, 100 ohm
32 to 212	0.102	Pt392.6, 100 ohm
212 to 572	0.126	Pt392.6, 100 ohm
572 to 752	0.142	Pt392.6, 100 ohm
752 to 1166	0.170	Pt392.6, 100 ohm
-328 to -310	0.350	Pt391.6, 100 ohm
-310 to -112	0.058	Pt391.6, 100 ohm
-112 to 32	0.072	Pt391.6, 100 ohm
32 to 212	0.088	Pt391.6, 100 ohm
212 to 500	0.102	Pt391.6, 100 ohm
500 to 572	0.116	Pt391.6, 100 ohm
572 to 752	0.126	Pt391.6, 100 ohm
752 to 1112	0.142	Pt391.6, 100 ohm
1112 to 1166	0.324	Pt391.6, 100 ohm
-328 to -112	0.058	Pt385, 200 ohm
-112 to 32	0.058	Pt385, 200 ohm

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ELECTRONIC AUTOMATION INC.

32 to 212	0.058	Pt385, 200 ohm
212 to 500	0.072	Pt385, 200 ohm
500 to 572	0.170	Pt385, 200 ohm
572 to 752	0.184	Pt385, 200 ohm
752 to 1112	0.198	Pt385, 200 ohm
1112 to 1166	0.228	Pt385, 200 ohm
-328 to -112	0.058	Pt385, 500 ohm
-112 to 32	0.072	Pt385, 500 ohm
32 to 212	0.072	Pt385, 500 ohm
212 to 500	0.088	Pt385, 500 ohm
500 to 572	0.116	Pt385, 500 ohm
572 to 752	0.116	Pt385, 500 ohm
752 to 1112	0.126	Pt385, 500 ohm
1112 to 1166	0.156	Pt385, 500 ohm
-328 to -112	0.044	Pt385, 1000 ohm
-112 to 32	0.044	Pt385, 1000 ohm

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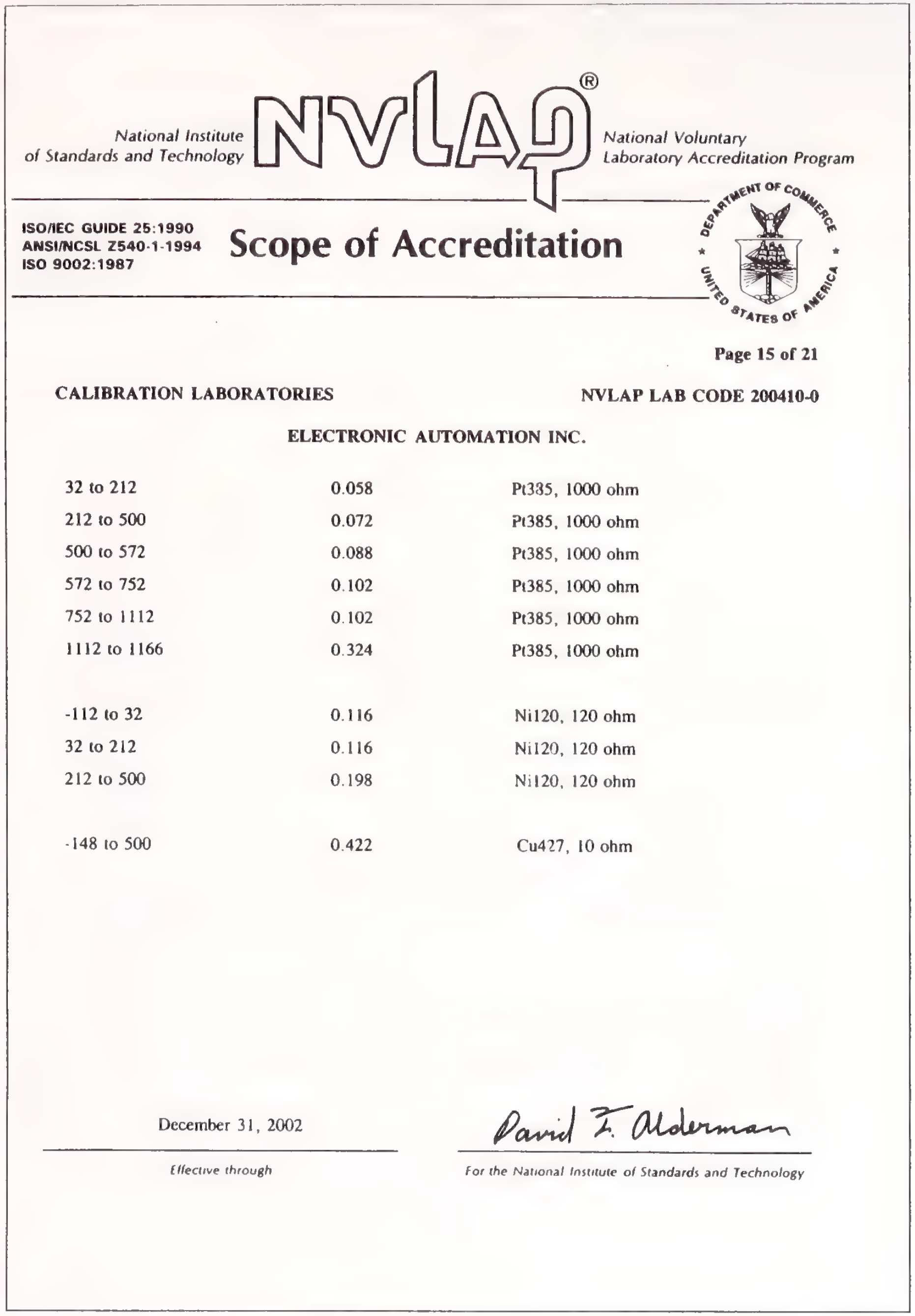

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ELECTRONIC AUTOMATION INC.

32 to 212	0.058	Pt335, 1000 ohm
212 to 500	0.072	Pt385, 1000 ohm
500 to 572	0.088	Pt385, 1000 ohm
572 to 752	0.102	Pt385, 1000 ohm
752 to 1112	0.102	Pt385, 1000 ohm
1112 to 1166	0.324	Pt385, 1000 ohm
-112 to 32	0.116	Ni120, 120 ohm
32 to 212	0.116	Ni120, 120 ohm
212 to 500	0.198	Ni120, 120 ohm
-148 to 500	0.422	Cu427, 10 ohm

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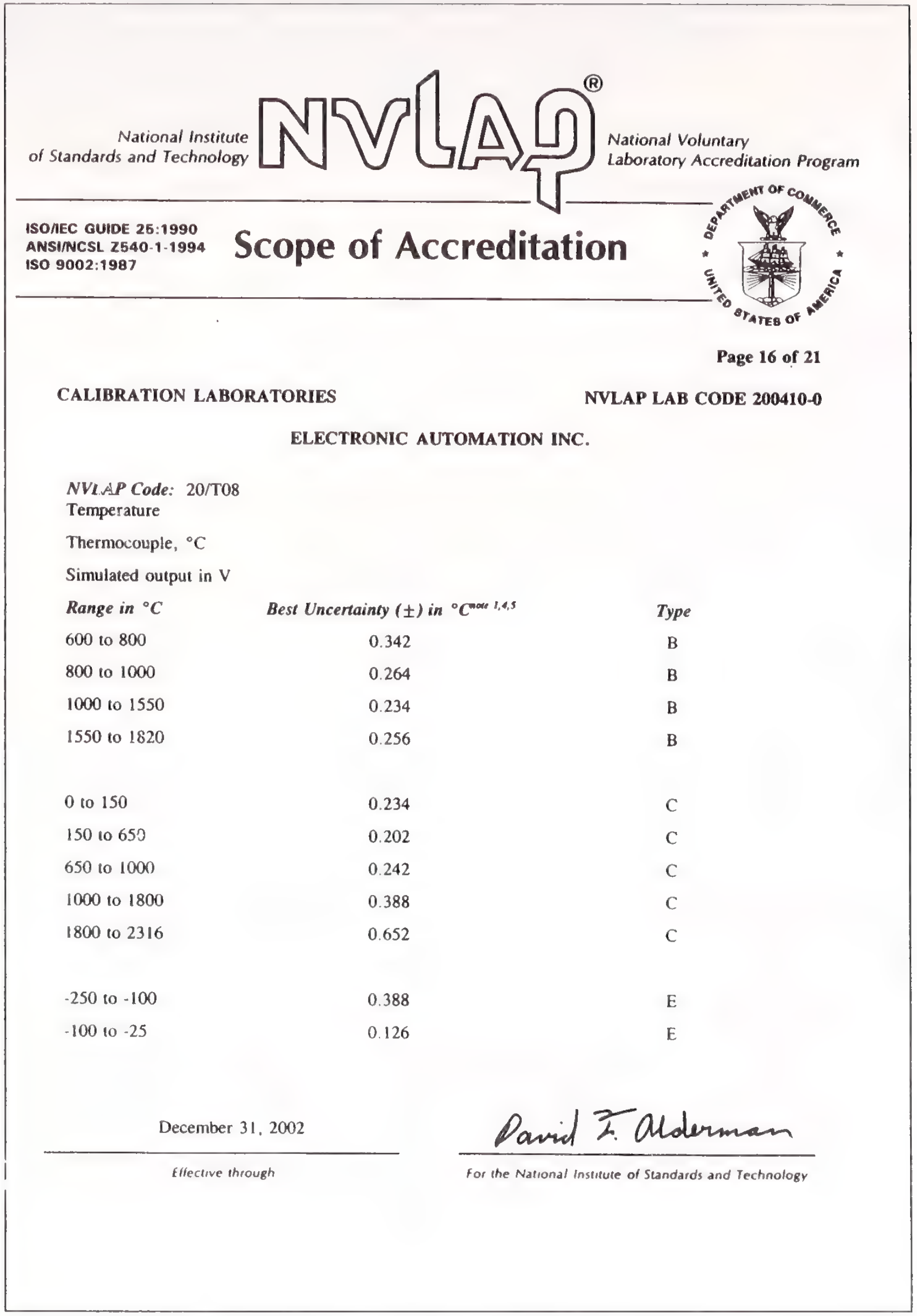

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CALIBRATION LABORATORIES **NVLAP LAB CODE 200410-0**

ELECTRONIC AUTOMATION INC.

NVLAP Code: 20/T08
Temperature

Thermocouple, °C

Simulated output in V

Range in °C	*Best Uncertainty (±) in °C*$^{\text{note } 1,4,5}$	*Type*
600 to 800	0.342	B
800 to 1000	0.264	B
1000 to 1550	0.234	B
1550 to 1820	0.256	B
0 to 150	0.234	C
150 to 650	0.202	C
650 to 1000	0.242	C
1000 to 1800	0.388	C
1800 to 2316	0.652	C
-250 to -100	0.388	E
-100 to -25	0.126	E

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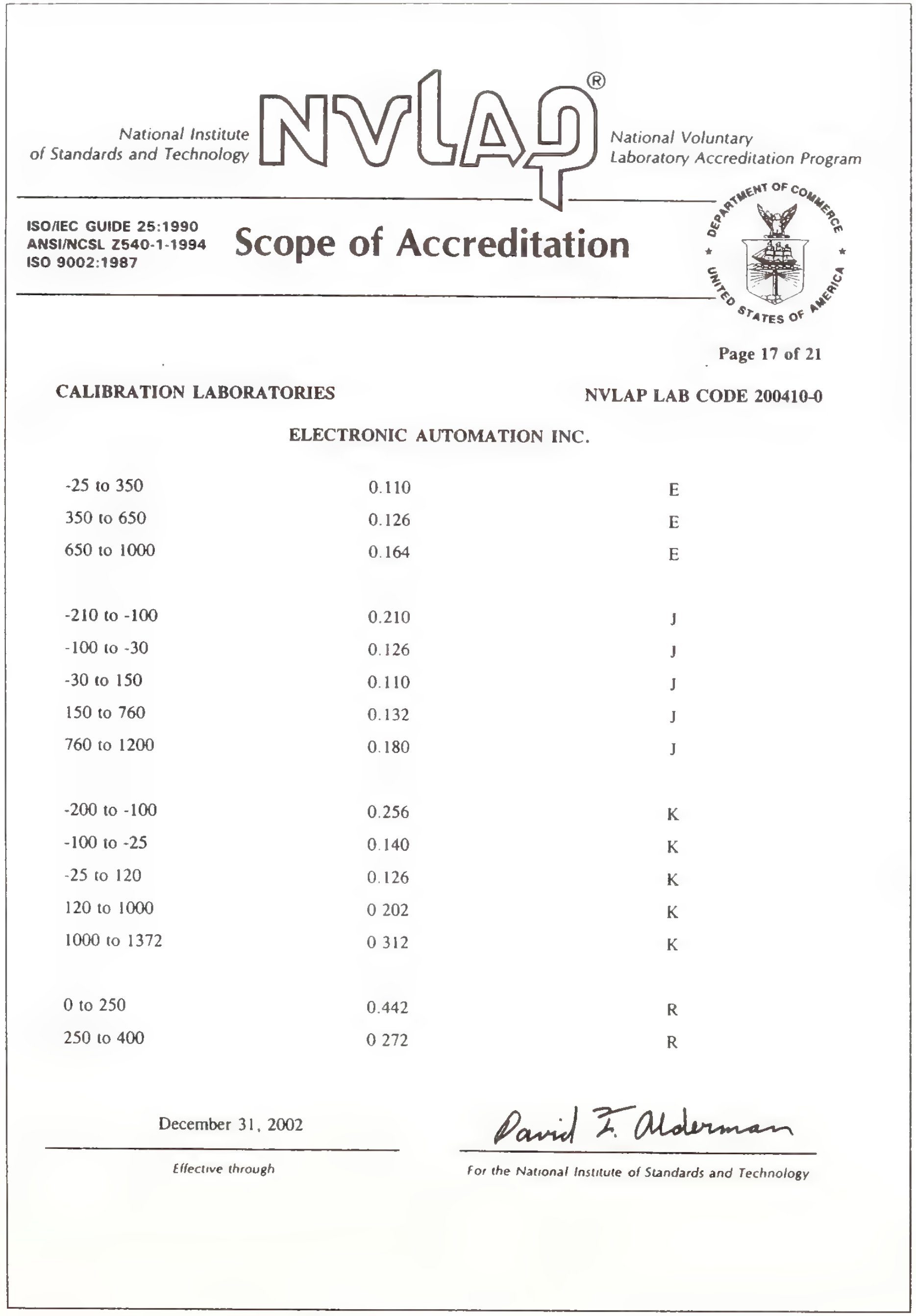

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ELECTRONIC AUTOMATION INC.

-25 to 350	0.110	E
350 to 650	0.126	E
650 to 1000	0.164	E
-210 to -100	0.210	J
-100 to -30	0.126	J
-30 to 150	0.110	J
150 to 760	0.132	J
760 to 1200	0.180	J
-200 to -100	0.256	K
-100 to -25	0.140	K
-25 to 120	0.126	K
120 to 1000	0.202	K
1000 to 1372	0.312	K
0 to 250	0.442	R
250 to 400	0.272	R

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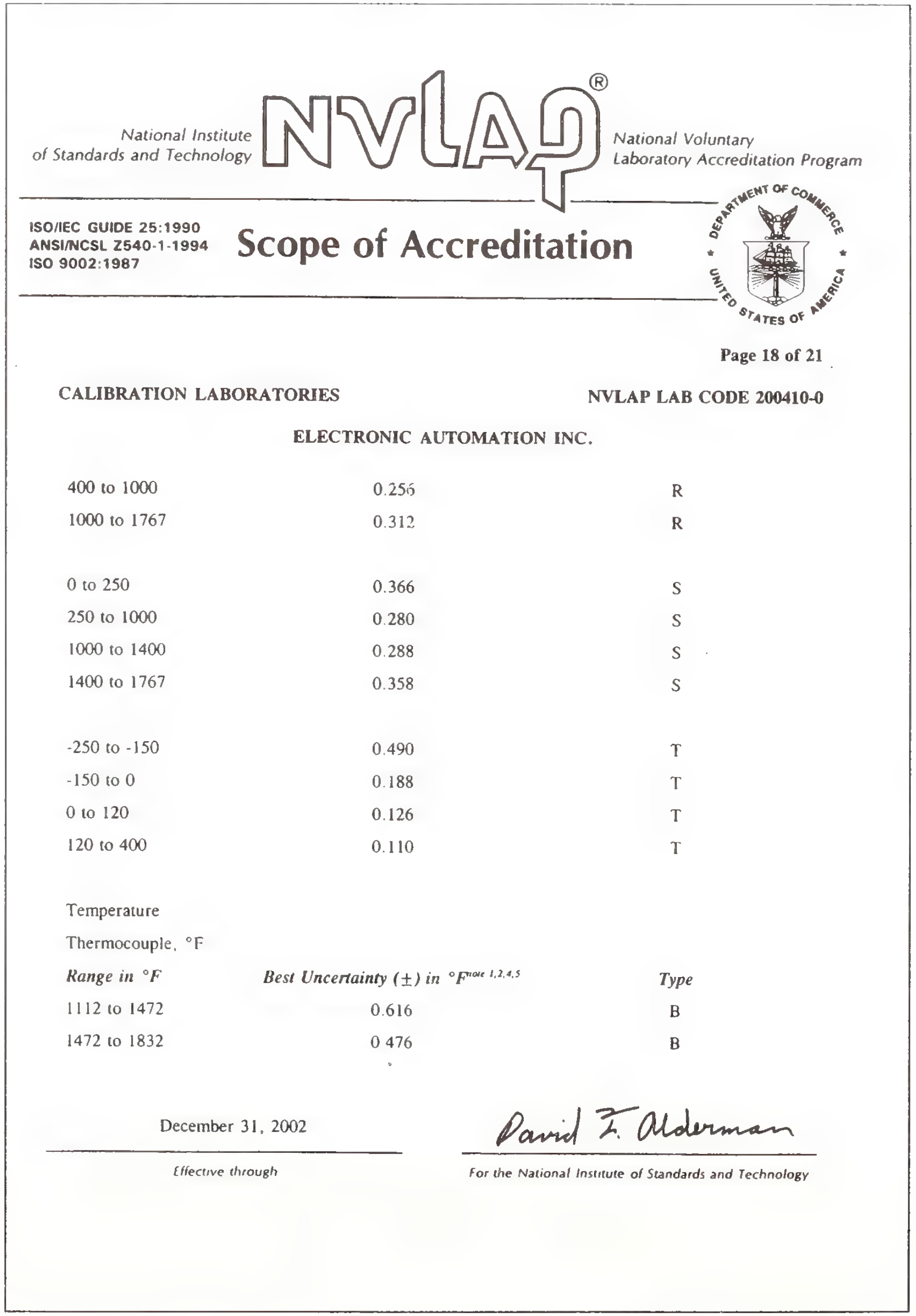

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CALIBRATION LABORATORIES **NVLAP LAB CODE 200410-0**

ELECTRONIC AUTOMATION INC.

400 to 1000	0.256	R
1000 to 1767	0.312	R
0 to 250	0.366	S
250 to 1000	0.280	S
1000 to 1400	0.288	S
1400 to 1767	0.358	S
-250 to -150	0.490	T
-150 to 0	0.188	T
0 to 120	0.126	T
120 to 400	0.110	T

Temperature
Thermocouple, °F

Range in °F	*Best Uncertainty (±) in* $°F^{\text{note 1,2,4,5}}$	*Type*
1112 to 1472	0.616	B
1472 to 1832	0.476	B

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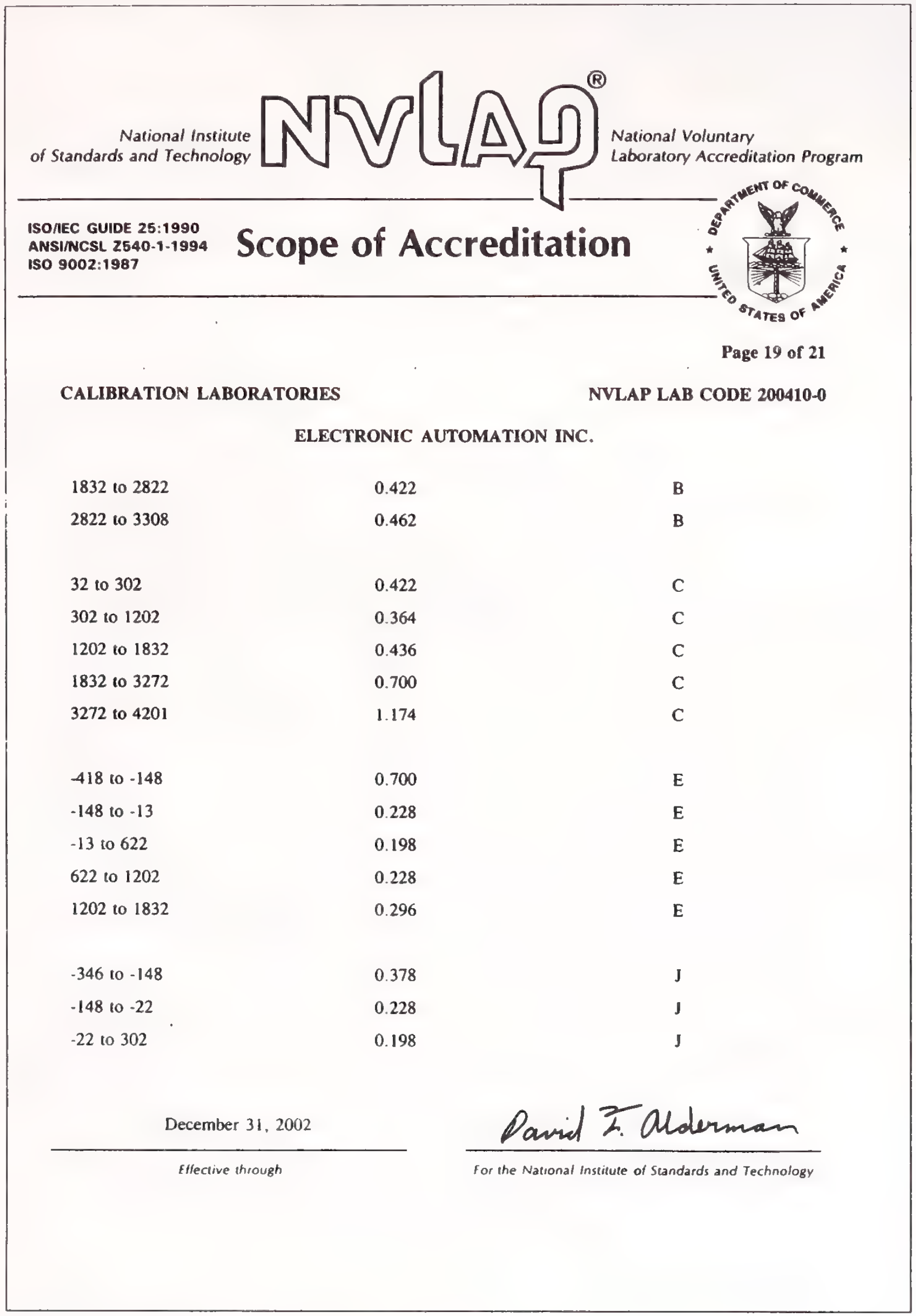

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ELECTRONIC AUTOMATION INC.

1832 to 2822	0.422	B
2822 to 3308	0.462	B
32 to 302	0.422	C
302 to 1202	0.364	C
1202 to 1832	0.436	C
1832 to 3272	0.700	C
3272 to 4201	1.174	C
-418 to -148	0.700	E
-148 to -13	0.228	E
-13 to 622	0.198	E
622 to 1202	0.228	E
1202 to 1832	0.296	E
-346 to -148	0.378	J
-148 to -22	0.228	J
-22 to 302	0.198	J

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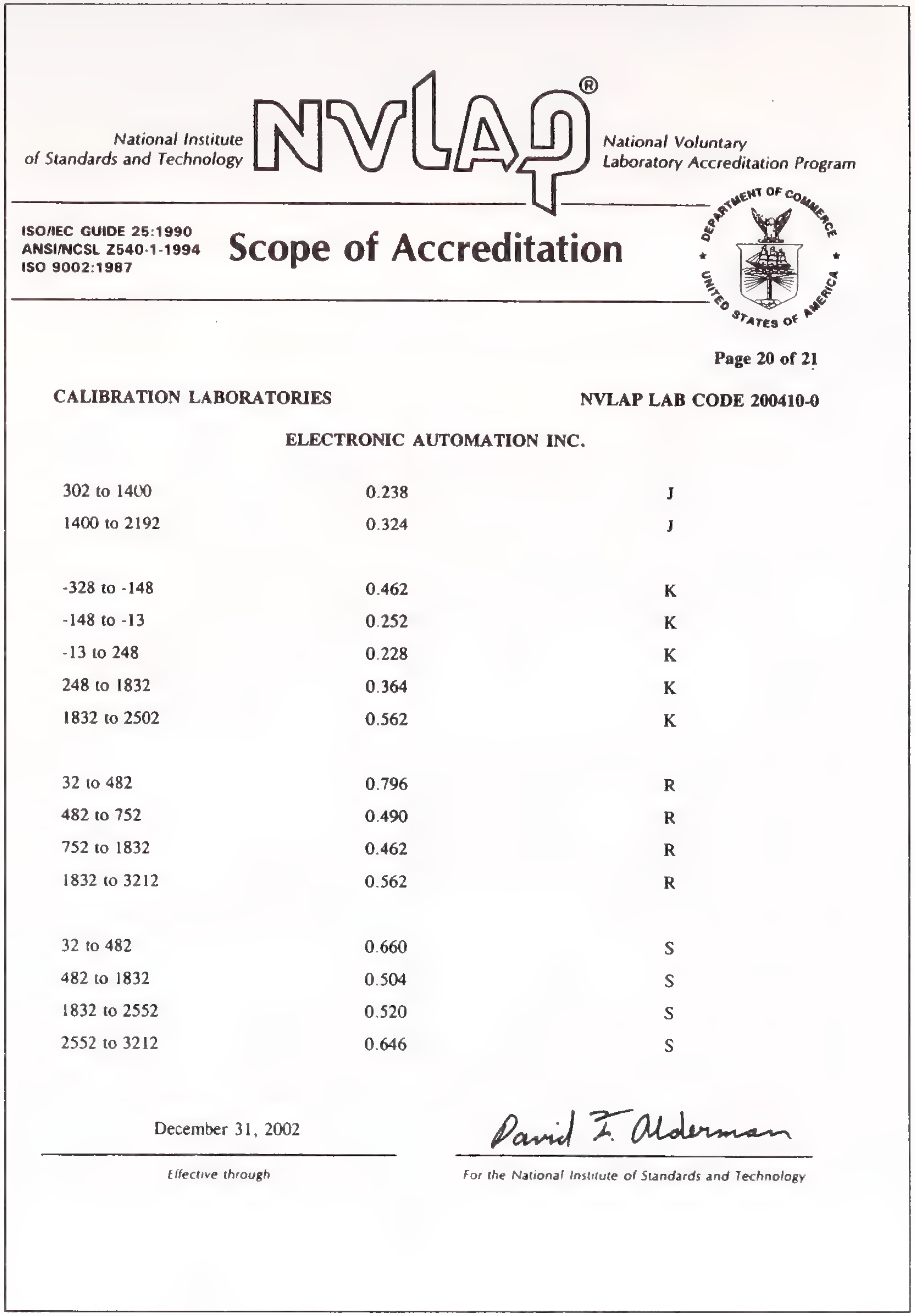

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ELECTRONIC AUTOMATION INC.

302 to 1400	0.238	J
1400 to 2192	0.324	J
-328 to -148	0.462	K
-148 to -13	0.252	K
-13 to 248	0.228	K
248 to 1832	0.364	K
1832 to 2502	0.562	K
32 to 482	0.796	R
482 to 752	0.490	R
752 to 1832	0.462	R
1832 to 3212	0.562	R
32 to 482	0.660	S
482 to 1832	0.504	S
1832 to 2552	0.520	S
2552 to 3212	0.646	S

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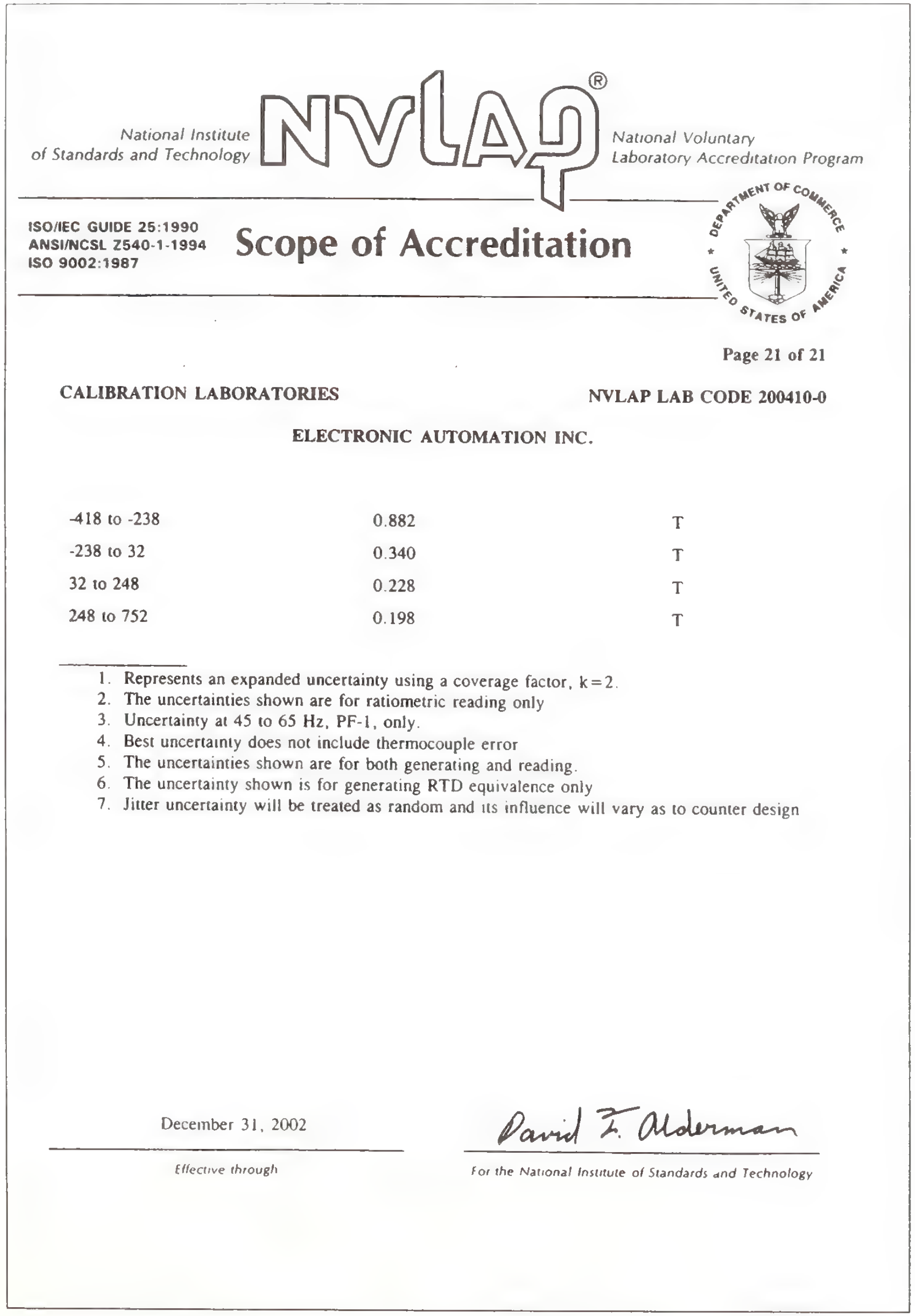

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CALIBRATION LABORATORIES — NVLAP LAB CODE 200410-0

ELECTRONIC AUTOMATION INC.

-418 to -238	0.882	T
-238 to 32	0.340	T
32 to 248	0.228	T
248 to 752	0.198	T

---

1. Represents an expanded uncertainty using a coverage factor, k = 2.
2. The uncertainties shown are for ratiometric reading only
3. Uncertainty at 45 to 65 Hz, PF-1, only.
4. Best uncertainty does not include thermocouple error
5. The uncertainties shown are for both generating and reading.
6. The uncertainty shown is for generating RTD equivalence only
7. Jitter uncertainty will be treated as random and its influence will vary as to counter design

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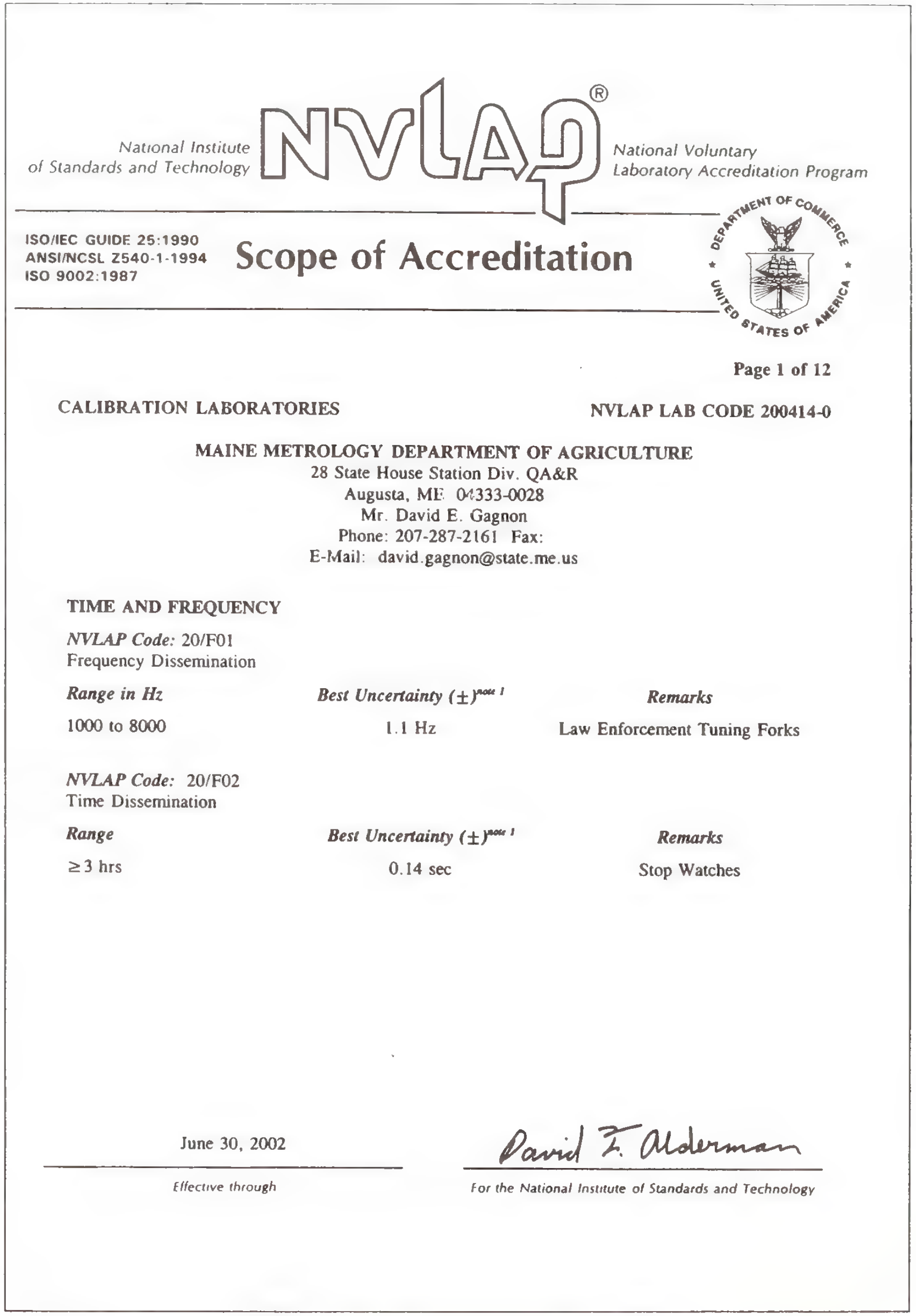

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MAINE METROLOGY DEPARTMENT OF AGRICULTURE
28 State House Station Div. QA&R
Augusta, ME 04333-0028
Mr. David E. Gagnon
Phone: 207-287-2161 Fax:
E-Mail: david.gagnon@state.me.us

TIME AND FREQUENCY

NVLAP Code: 20/F01
Frequency Dissemination

Range in Hz	*Best Uncertainty* (±)$^{\text{note 1}}$	*Remarks*
1000 to 8000	1.1 Hz	Law Enforcement Tuning Forks

NVLAP Code: 20/F02
Time Dissemination

Range	*Best Uncertainty* (±)$^{\text{note 1}}$	*Remarks*
≥ 3 hrs	0.14 sec	Stop Watches

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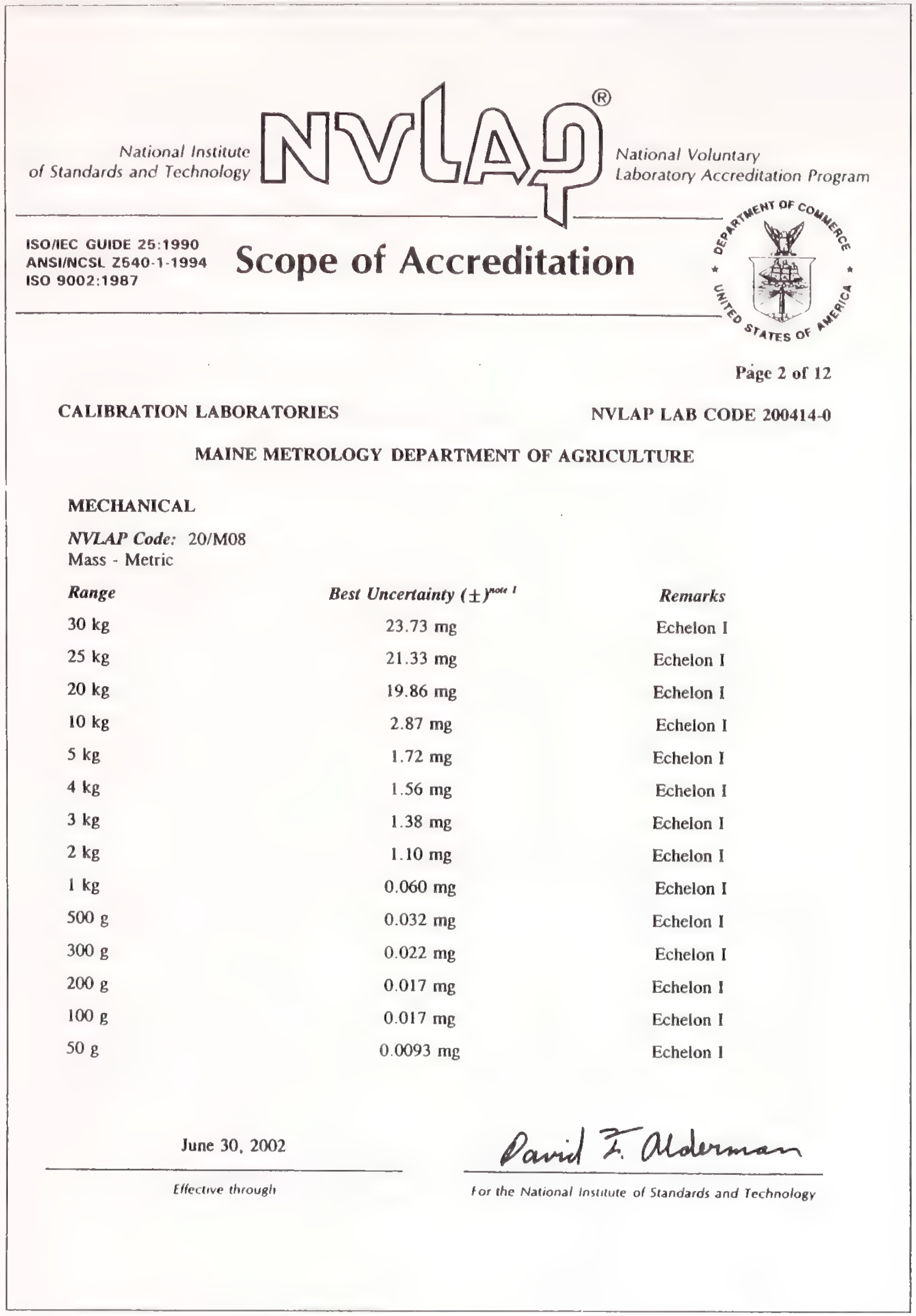

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MAINE METROLOGY DEPARTMENT OF AGRICULTURE

MECHANICAL

NVLAP Code: 20/M08
Mass - Metric

Range	*Best Uncertainty* (±)$^{note\ 1}$	*Remarks*
30 kg	23.73 mg	Echelon I
25 kg	21.33 mg	Echelon I
20 kg	19.86 mg	Echelon I
10 kg	2.87 mg	Echelon I
5 kg	1.72 mg	Echelon I
4 kg	1.56 mg	Echelon I
3 kg	1.38 mg	Echelon I
2 kg	1.10 mg	Echelon I
1 kg	0.060 mg	Echelon I
500 g	0.032 mg	Echelon I
300 g	0.022 mg	Echelon I
200 g	0.017 mg	Echelon I
100 g	0.017 mg	Echelon I
50 g	0.0093 mg	Echelon I

June 30, 2002
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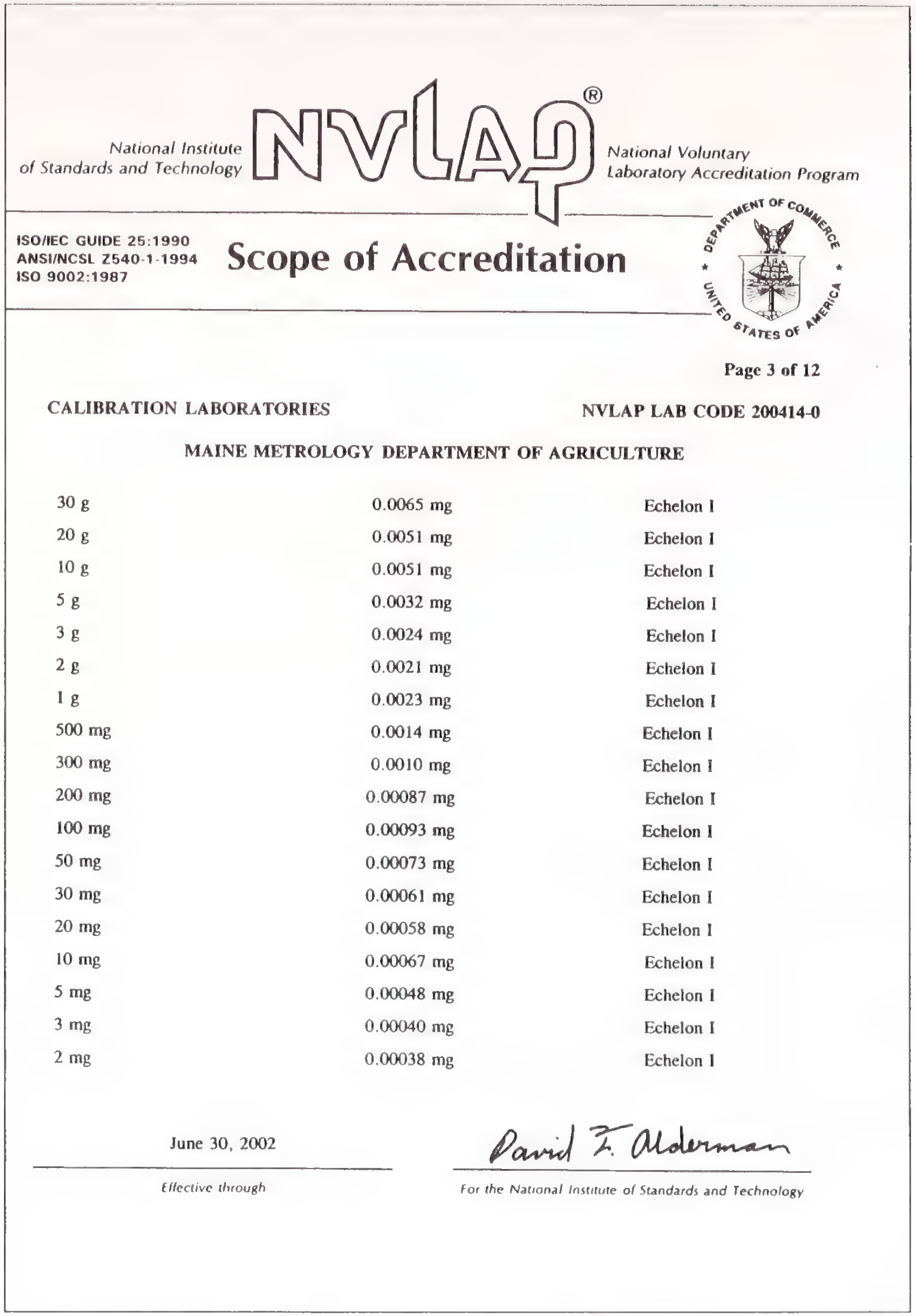

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CALIBRATION LABORATORIES **NVLAP LAB CODE 200414-0**

MAINE METROLOGY DEPARTMENT OF AGRICULTURE

30 g	0.0065 mg	Echelon I
20 g	0.0051 mg	Echelon I
10 g	0.0051 mg	Echelon I
5 g	0.0032 mg	Echelon I
3 g	0.0024 mg	Echelon I
2 g	0.0021 mg	Echelon I
1 g	0.0023 mg	Echelon I
500 mg	0.0014 mg	Echelon I
300 mg	0.0010 mg	Echelon I
200 mg	0.00087 mg	Echelon I
100 mg	0.00093 mg	Echelon I
50 mg	0.00073 mg	Echelon I
30 mg	0.00061 mg	Echelon I
20 mg	0.00058 mg	Echelon I
10 mg	0.00067 mg	Echelon I
5 mg	0.00048 mg	Echelon I
3 mg	0.00040 mg	Echelon I
2 mg	0.00038 mg	Echelon I

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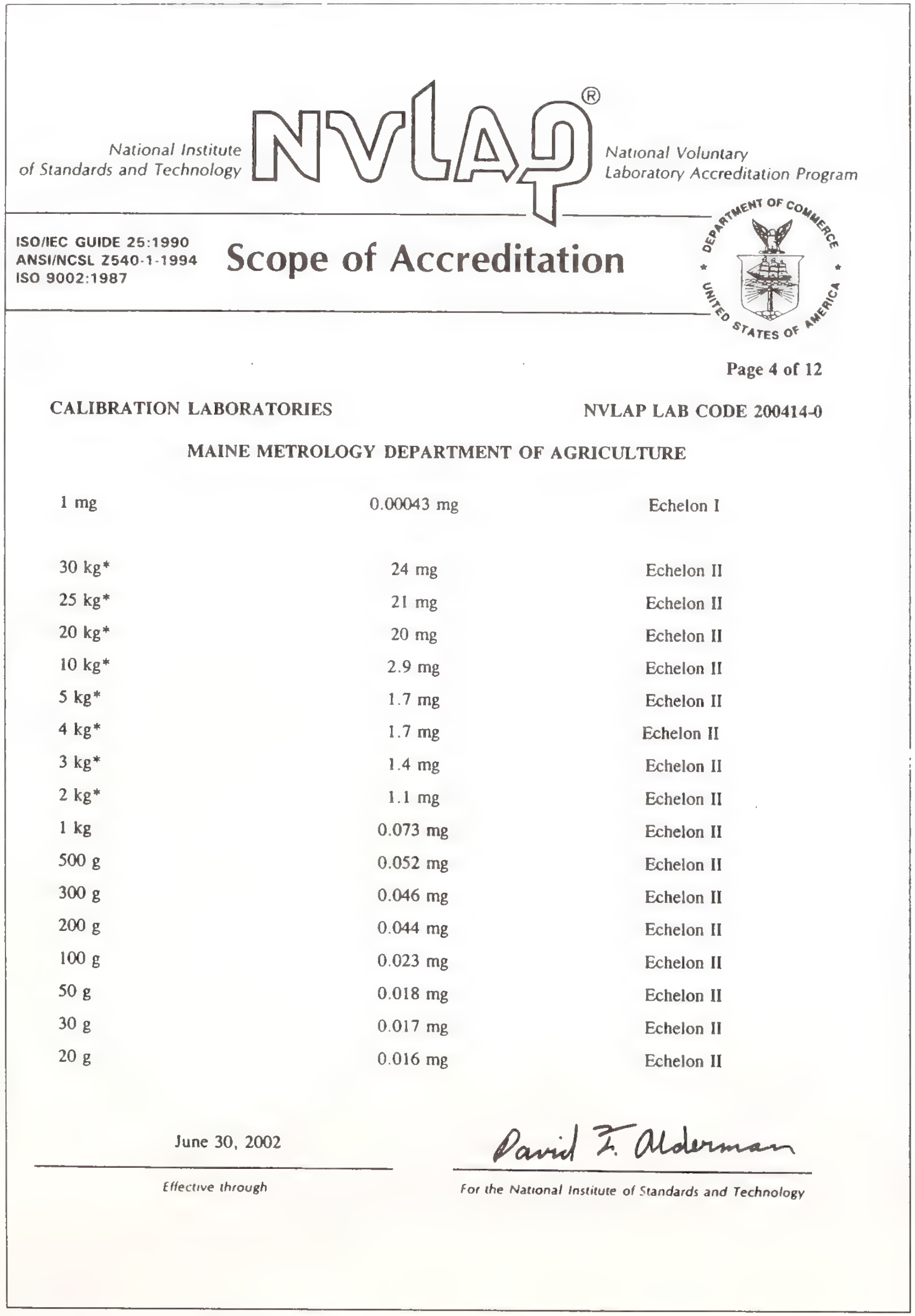

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MAINE METROLOGY DEPARTMENT OF AGRICULTURE

1 mg	0.00043 mg	Echelon I
30 kg*	24 mg	Echelon II
25 kg*	21 mg	Echelon II
20 kg*	20 mg	Echelon II
10 kg*	2.9 mg	Echelon II
5 kg*	1.7 mg	Echelon II
4 kg*	1.7 mg	Echelon II
3 kg*	1.4 mg	Echelon II
2 kg*	1.1 mg	Echelon II
1 kg	0.073 mg	Echelon II
500 g	0.052 mg	Echelon II
300 g	0.046 mg	Echelon II
200 g	0.044 mg	Echelon II
100 g	0.023 mg	Echelon II
50 g	0.018 mg	Echelon II
30 g	0.017 mg	Echelon II
20 g	0.016 mg	Echelon II

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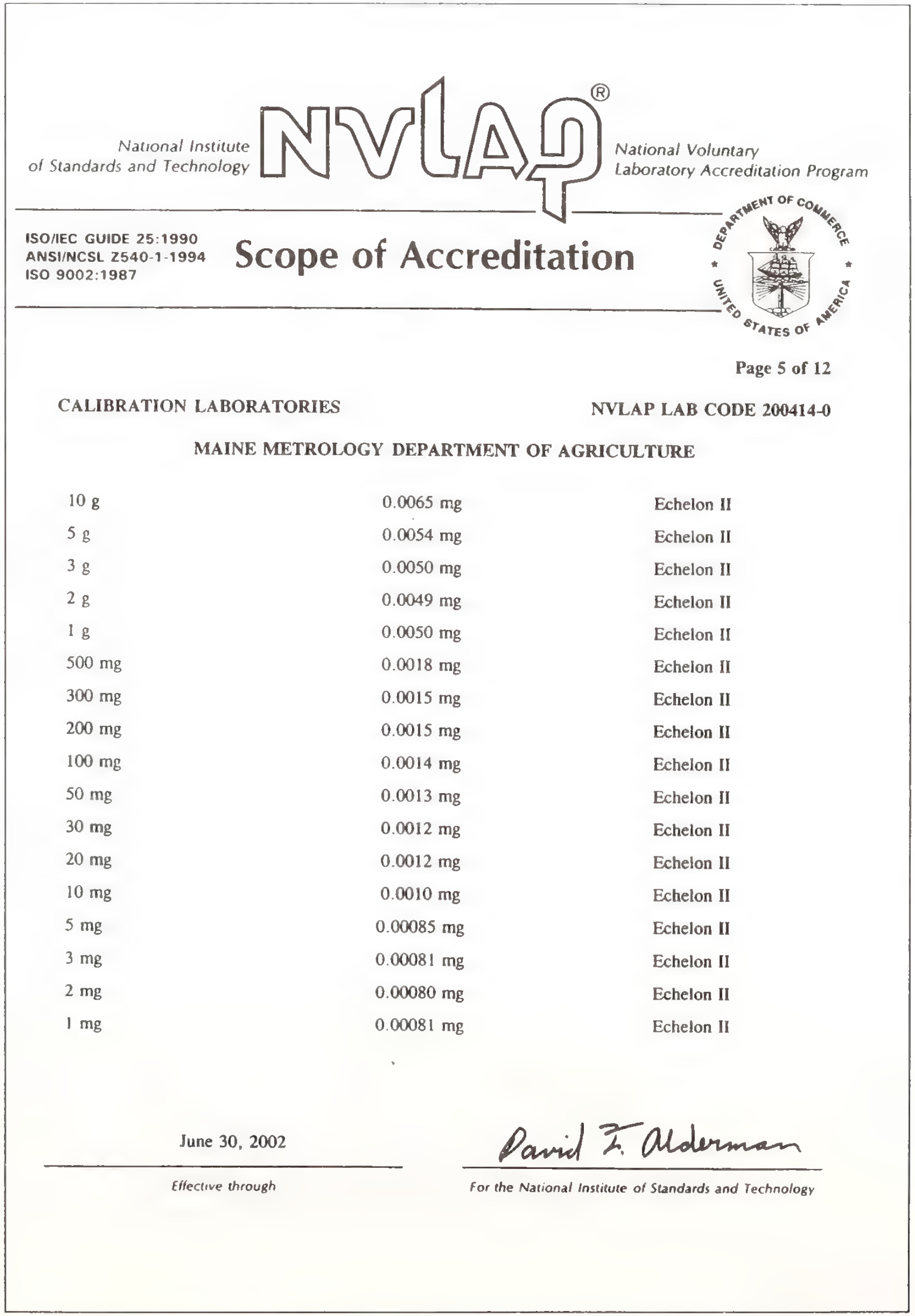

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ISO 9002:1987

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CALIBRATION LABORATORIES — NVLAP LAB CODE 200414-0

MAINE METROLOGY DEPARTMENT OF AGRICULTURE

10 g	0.0065 mg	Echelon II
5 g	0.0054 mg	Echelon II
3 g	0.0050 mg	Echelon II
2 g	0.0049 mg	Echelon II
1 g	0.0050 mg	Echelon II
500 mg	0.0018 mg	Echelon II
300 mg	0.0015 mg	Echelon II
200 mg	0.0015 mg	Echelon II
100 mg	0.0014 mg	Echelon II
50 mg	0.0013 mg	Echelon II
30 mg	0.0012 mg	Echelon II
20 mg	0.0012 mg	Echelon II
10 mg	0.0010 mg	Echelon II
5 mg	0.00085 mg	Echelon II
3 mg	0.00081 mg	Echelon II
2 mg	0.00080 mg	Echelon II
1 mg	0.00081 mg	Echelon II

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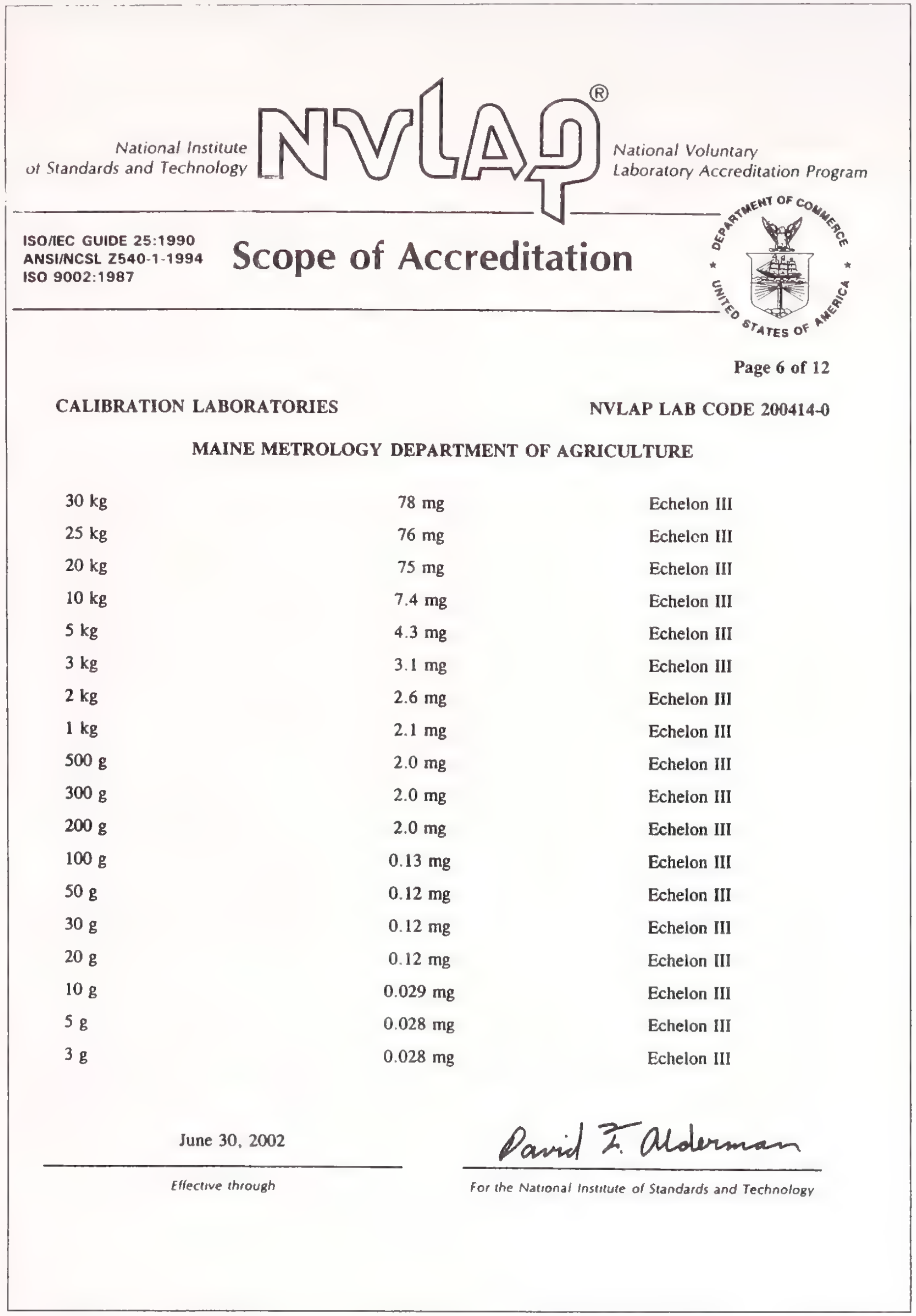

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MAINE METROLOGY DEPARTMENT OF AGRICULTURE

30 kg	78 mg	Echelon III
25 kg	76 mg	Echelon III
20 kg	75 mg	Echelon III
10 kg	7.4 mg	Echelon III
5 kg	4.3 mg	Echelon III
3 kg	3.1 mg	Echelon III
2 kg	2.6 mg	Echelon III
1 kg	2.1 mg	Echelon III
500 g	2.0 mg	Echelon III
300 g	2.0 mg	Echelon III
200 g	2.0 mg	Echelon III
100 g	0.13 mg	Echelon III
50 g	0.12 mg	Echelon III
30 g	0.12 mg	Echelon III
20 g	0.12 mg	Echelon III
10 g	0.029 mg	Echelon III
5 g	0.028 mg	Echelon III
3 g	0.028 mg	Echelon III

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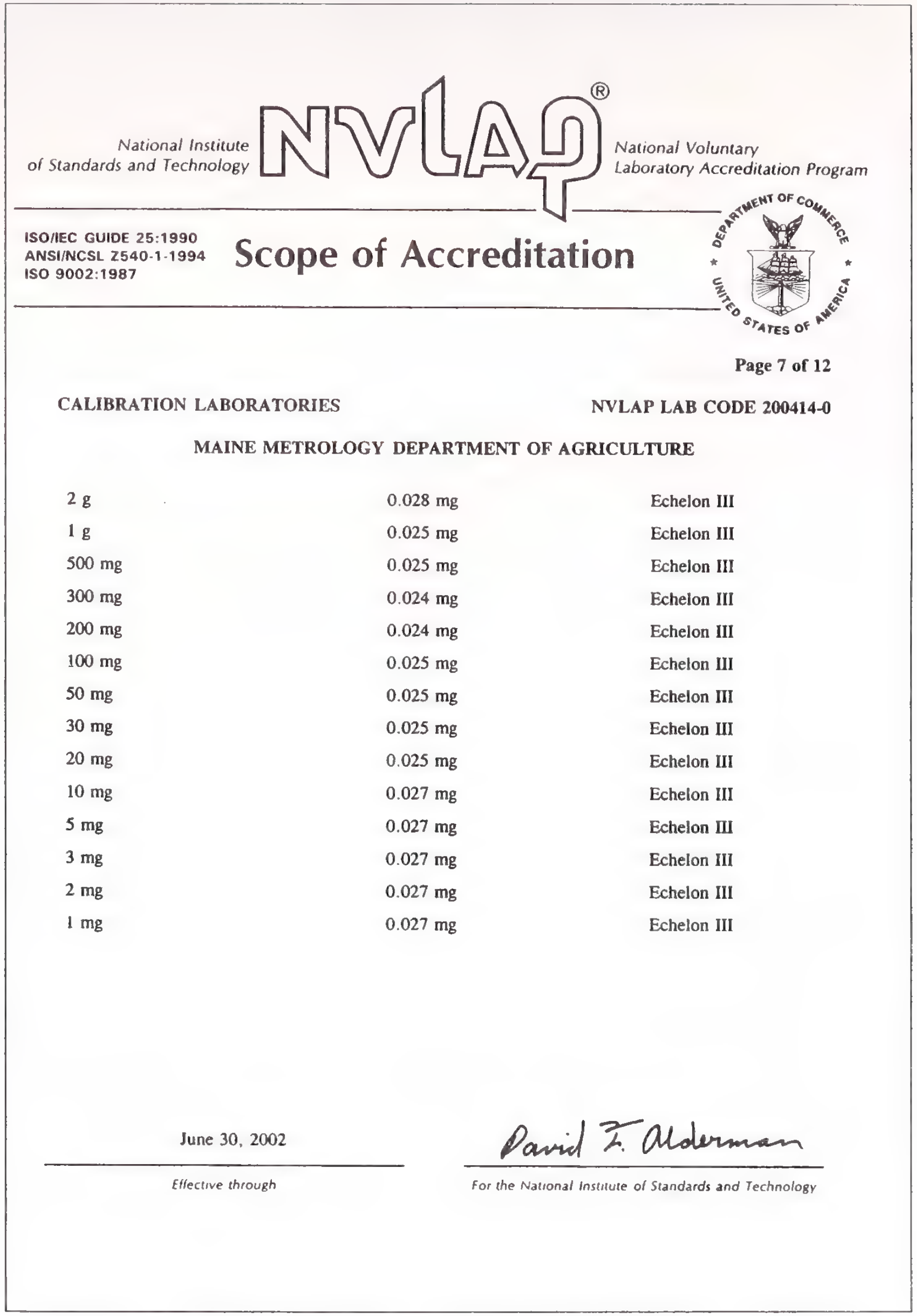

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MAINE METROLOGY DEPARTMENT OF AGRICULTURE

2 g	0.028 mg	Echelon III
1 g	0.025 mg	Echelon III
500 mg	0.025 mg	Echelon III
300 mg	0.024 mg	Echelon III
200 mg	0.024 mg	Echelon III
100 mg	0.025 mg	Echelon III
50 mg	0.025 mg	Echelon III
30 mg	0.025 mg	Echelon III
20 mg	0.025 mg	Echelon III
10 mg	0.027 mg	Echelon III
5 mg	0.027 mg	Echelon III
3 mg	0.027 mg	Echelon III
2 mg	0.027 mg	Echelon III
1 mg	0.027 mg	Echelon III

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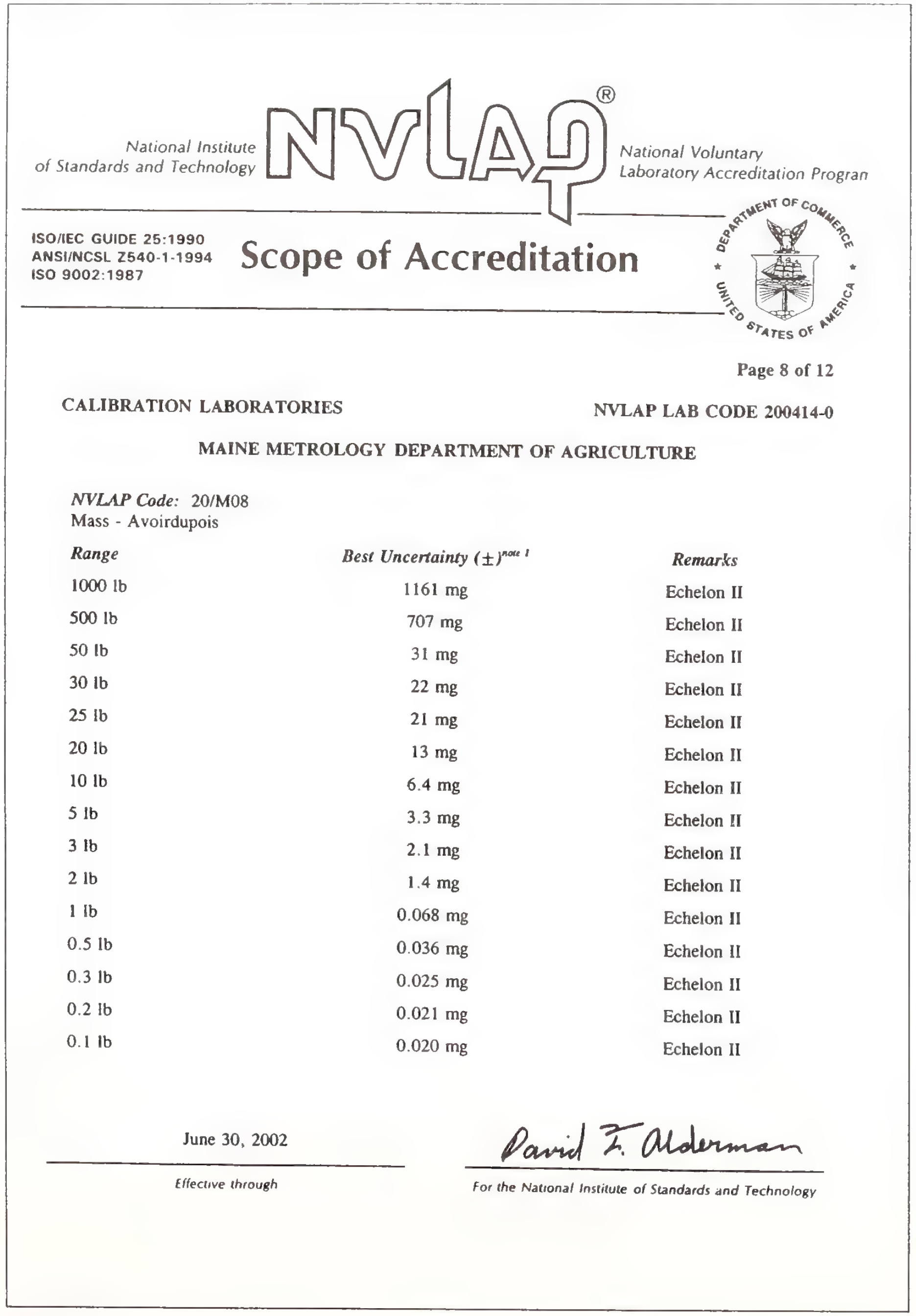

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CALIBRATION LABORATORIES — NVLAP LAB CODE 200414-0

MAINE METROLOGY DEPARTMENT OF AGRICULTURE

NVLAP Code: 20/M08
Mass - Avoirdupois

Range	*Best Uncertainty* $(\pm)^{\text{note 1}}$	*Remarks*
1000 lb	1161 mg	Echelon II
500 lb	707 mg	Echelon II
50 lb	31 mg	Echelon II
30 lb	22 mg	Echelon II
25 lb	21 mg	Echelon II
20 lb	13 mg	Echelon II
10 lb	6.4 mg	Echelon II
5 lb	3.3 mg	Echelon II
3 lb	2.1 mg	Echelon II
2 lb	1.4 mg	Echelon II
1 lb	0.068 mg	Echelon II
0.5 lb	0.036 mg	Echelon II
0.3 lb	0.025 mg	Echelon II
0.2 lb	0.021 mg	Echelon II
0.1 lb	0.020 mg	Echelon II

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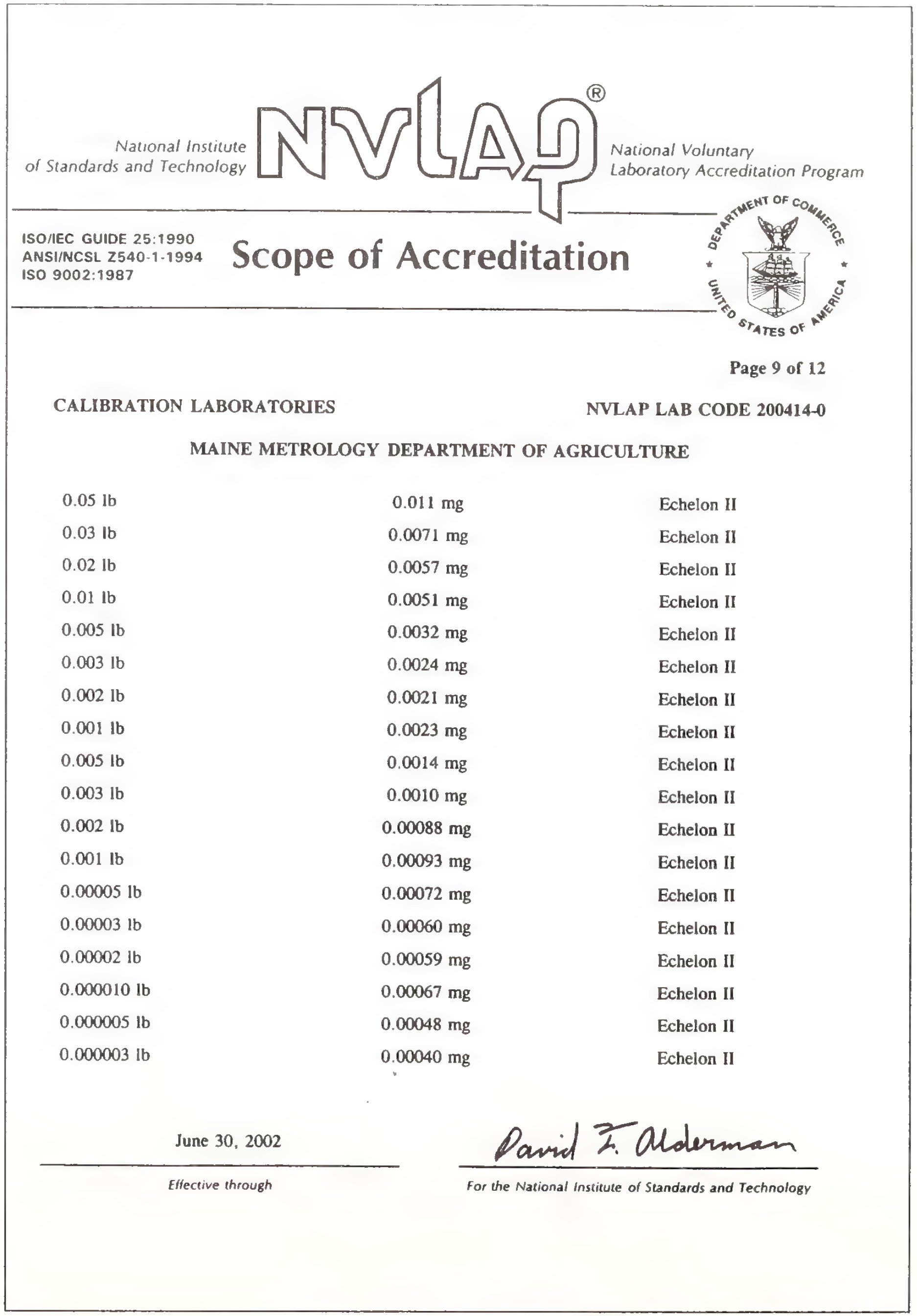

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MAINE METROLOGY DEPARTMENT OF AGRICULTURE

0.05 lb	0.011 mg	Echelon II
0.03 lb	0.0071 mg	Echelon II
0.02 lb	0.0057 mg	Echelon II
0.01 lb	0.0051 mg	Echelon II
0.005 lb	0.0032 mg	Echelon II
0.003 lb	0.0024 mg	Echelon II
0.002 lb	0.0021 mg	Echelon II
0.001 lb	0.0023 mg	Echelon II
0.005 lb	0.0014 mg	Echelon II
0.003 lb	0.0010 mg	Echelon II
0.002 lb	0.00088 mg	Echelon II
0.001 lb	0.00093 mg	Echelon II
0.00005 lb	0.00072 mg	Echelon II
0.00003 lb	0.00060 mg	Echelon II
0.00002 lb	0.00059 mg	Echelon II
0.000010 lb	0.00067 mg	Echelon II
0.000005 lb	0.00048 mg	Echelon II
0.000003 lb	0.00040 mg	Echelon II

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MAINE METROLOGY DEPARTMENT OF AGRICULTURE

0.000002 lb	0.00038 mg	Echelon II
0.000001 lb	0.00043 mg	Echelon II
1000 lb	2806 mg	Echelon III
500 lb	2003 mg	Echelon III
100 lb	103 mg	Echelon III
50 lb	84 mg	Echelon III
30 lb	80 mg	Echelon III
25 lb	80 mg	Echelon III
20 lb	78 mg	Echelon III
10 lb	6.9 mg	Echelon III
5 lb	4.1 mg	Echelon III
3 lb	3.2 mg	Echelon III
2 lb	2.8 mg	Echelon III
1 lb	1.8 mg	Echelon III
0.5 lb	1.8 mg	Echelon III
0.3 lb	0.18 mg	Echelon III
0.2 lb	0.18 mg	Echelon III

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MAINE METROLOGY DEPARTMENT OF AGRICULTURE

0.1 lb	0.18 mg	Echelon III
0.05 lb	0.18 mg	Echelon III
0.03 lb	0.18 mg	Echelon III
0.02 lb	0.18 mg	Echelon III
0.01 lb	0.075 mg	Echelon III
0.005 lb	0.077 mg	Echelon III
0.003 lb	0.076 mg	Echelon III
0.002 lb	0.075 mg	Echelon III
0.001 lb	0.075 mg	Echelon III

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CALIBRATION LABORATORIES **NVLAP LAB CODE 200414-0**

MAINE METROLOGY DEPARTMENT OF AGRICULTURE

NVLAP Code: 20/M12
Volume

Range	*Best Uncertainty* $(\pm)^{\text{note 1}}$	*Remarks*
5 gallons	0.13 in^3	Gravimetric
5 gallons	0.35 in^3	Volume Transfer
25 gallons	1.4 in^3	Volume Transfer
50 gallons	3.2 in^3	Volume Transfer
100 gallons	2.7 in^3	Volume Transfer
200 gallons	3.1 in^3	Volume Transfer
300 gallons	7.8 in^3	Volume Transfer
500 gallons	12 in^3	Volume Transfer
1000 gallons	27 in^3	Volume Transfer
1500 gallons	38 in^3	Volume Transfer

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1. Represents an expanded uncertainty using a coverage factor, k=2.

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CALIBRATION LABORATORIES **NVLAP LAB CODE 200419-0**

OHIO E.M.A RADIOLOGICAL INSTRUMENT CALIBRATION FACILITY
1296 Kinnear Road
Columbus, OH 43212
Mr. Daniel Redman
Phone: 614-688-3363 Fax: 614-688-3362
E-Mail: dredman@dps.state.oh.us

IONIZING RADIATION DOSIMETRY

NVLAP Code: 20/I01
Dosimetry of X-Rays, Gamma Rays, and Electrons

Calibration of Survey Instruments

Calibration Category	*Radiation Type or Beam Code*	*Nominal Intensity Range*	*Uncertainty of Reference Field* $(\pm)^{\text{note 1}}$	*Remarks*
Gamma	^{137}Cs	1 R/hr to 500 R/hr	5.0%	Source 1
	^{137}Cs	>10 mR/hr to 5 R/hr	5.0%	Source 2
	^{137}Cs	>10 mR/hr to 50 mR/hr	5.0%	Source 3
	^{137}Cs	0.1 mR/hr to 10mR/hr	7.0%	Source 3

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1. Represents an expanded uncertainty using a coverage factor, k=2.

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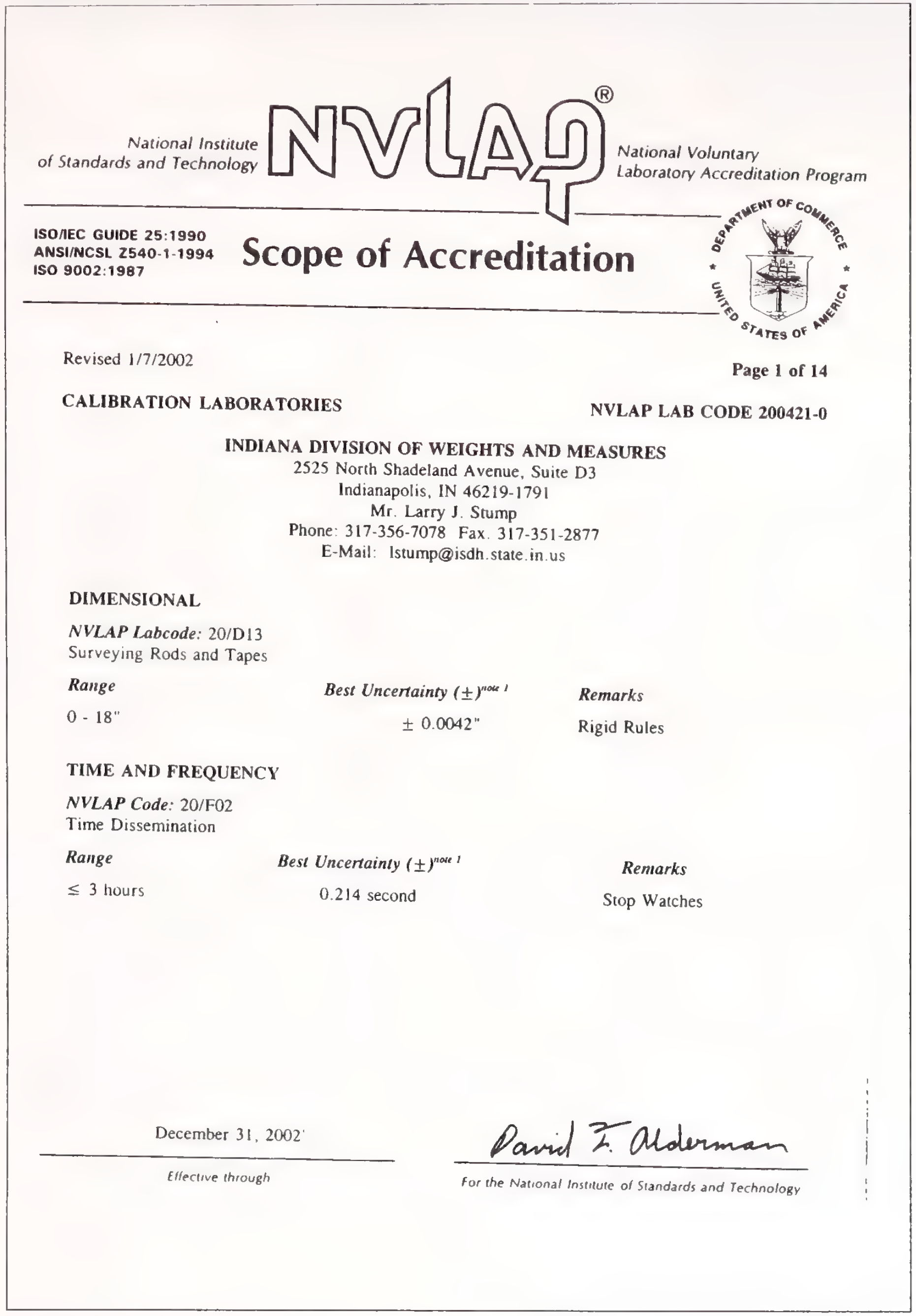

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CALIBRATION LABORATORIES

NVLAP LAB CODE 200421-0

INDIANA DIVISION OF WEIGHTS AND MEASURES
2525 North Shadeland Avenue, Suite D3
Indianapolis, IN 46219-1791
Mr. Larry J. Stump
Phone: 317-356-7078 Fax. 317-351-2877
E-Mail: lstump@isdh.state.in.us

DIMENSIONAL

NVLAP Labcode: 20/D13
Surveying Rods and Tapes

Range	*Best Uncertainty* $(\pm)^{note\ 1}$	*Remarks*
0 - 18"	± 0.0042"	Rigid Rules

TIME AND FREQUENCY

NVLAP Code: 20/F02
Time Dissemination

Range	*Best Uncertainty* $(\pm)^{note\ 1}$	*Remarks*
≤ 3 hours	0.214 second	Stop Watches

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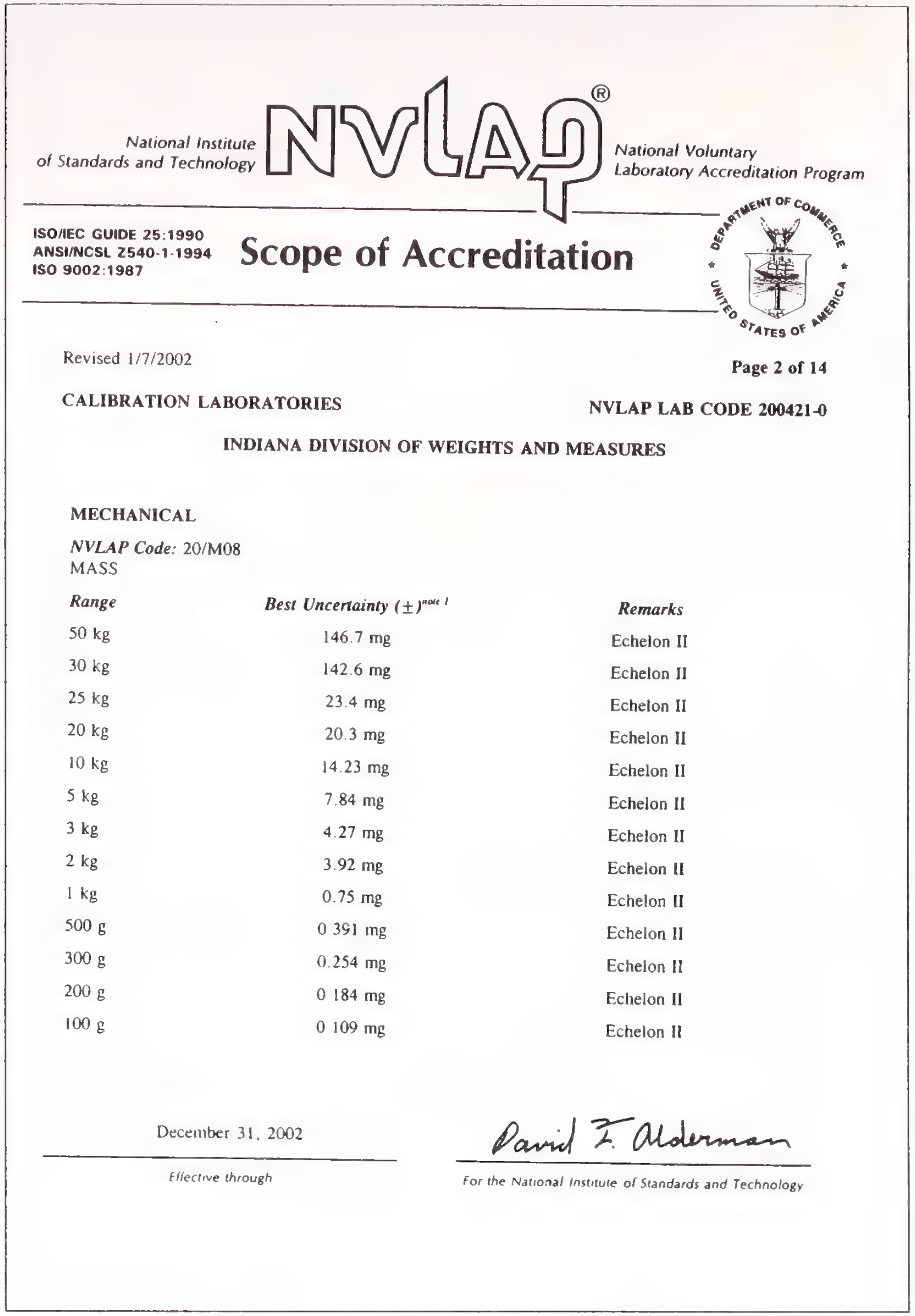

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NVLAP LAB CODE 200421-0

INDIANA DIVISION OF WEIGHTS AND MEASURES

MECHANICAL

NVLAP Code: 20/M08
MASS

Range	*Best Uncertainty* $(\pm)^{note\ 1}$	*Remarks*
50 kg	146.7 mg	Echelon II
30 kg	142.6 mg	Echelon II
25 kg	23.4 mg	Echelon II
20 kg	20.3 mg	Echelon II
10 kg	14.23 mg	Echelon II
5 kg	7.84 mg	Echelon II
3 kg	4.27 mg	Echelon II
2 kg	3.92 mg	Echelon II
1 kg	0.75 mg	Echelon II
500 g	0 391 mg	Echelon II
300 g	0.254 mg	Echelon II
200 g	0 184 mg	Echelon II
100 g	0 109 mg	Echelon II

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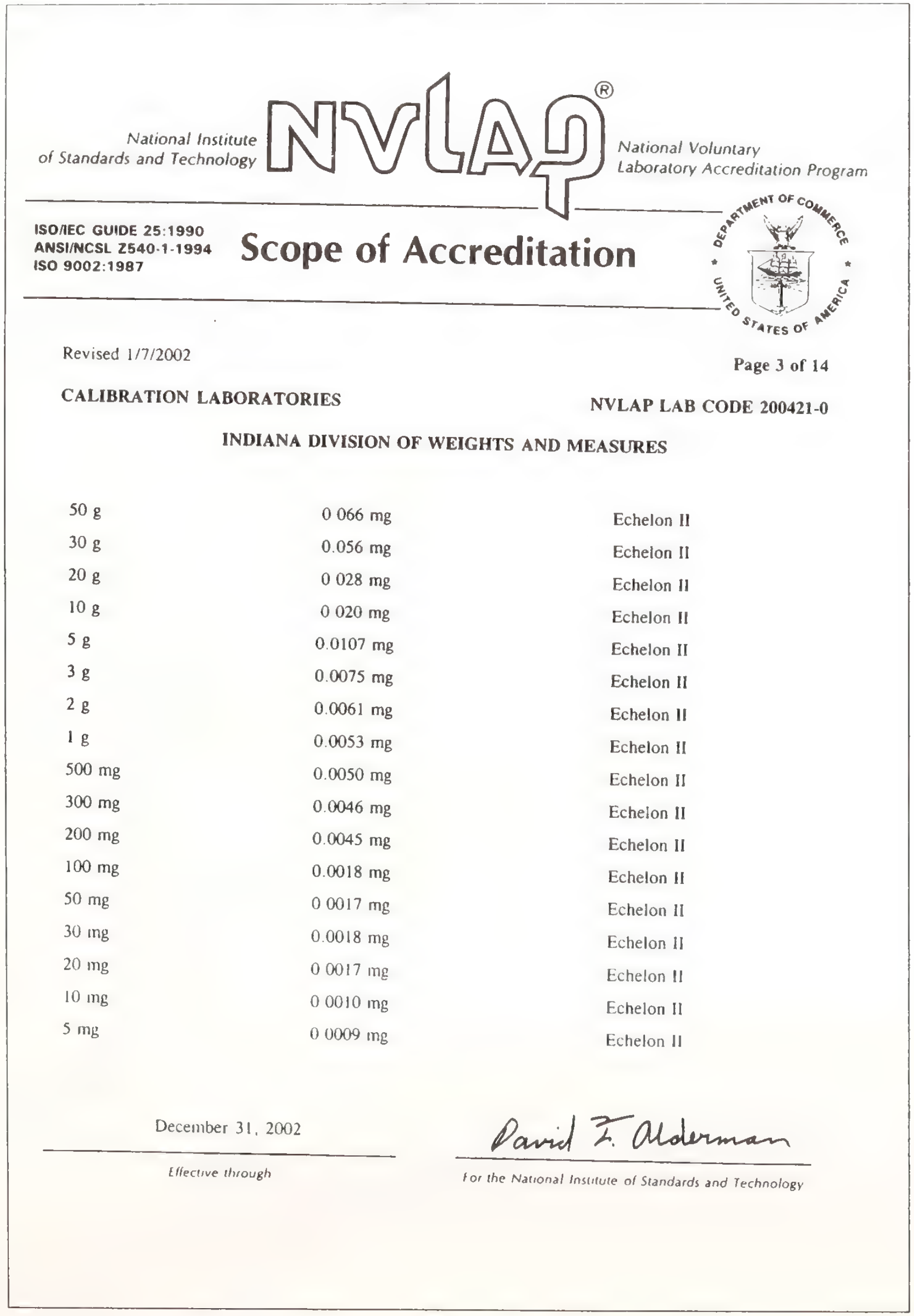

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CALIBRATION LABORATORIES **NVLAP LAB CODE 200421-0**

INDIANA DIVISION OF WEIGHTS AND MEASURES

50 g	0.066 mg	Echelon II
30 g	0.056 mg	Echelon II
20 g	0.028 mg	Echelon II
10 g	0.020 mg	Echelon II
5 g	0.0107 mg	Echelon II
3 g	0.0075 mg	Echelon II
2 g	0.0061 mg	Echelon II
1 g	0.0053 mg	Echelon II
500 mg	0.0050 mg	Echelon II
300 mg	0.0046 mg	Echelon II
200 mg	0.0045 mg	Echelon II
100 mg	0.0018 mg	Echelon II
50 mg	0.0017 mg	Echelon II
30 mg	0.0018 mg	Echelon II
20 mg	0.0017 mg	Echelon II
10 mg	0.0010 mg	Echelon II
5 mg	0.0009 mg	Echelon II

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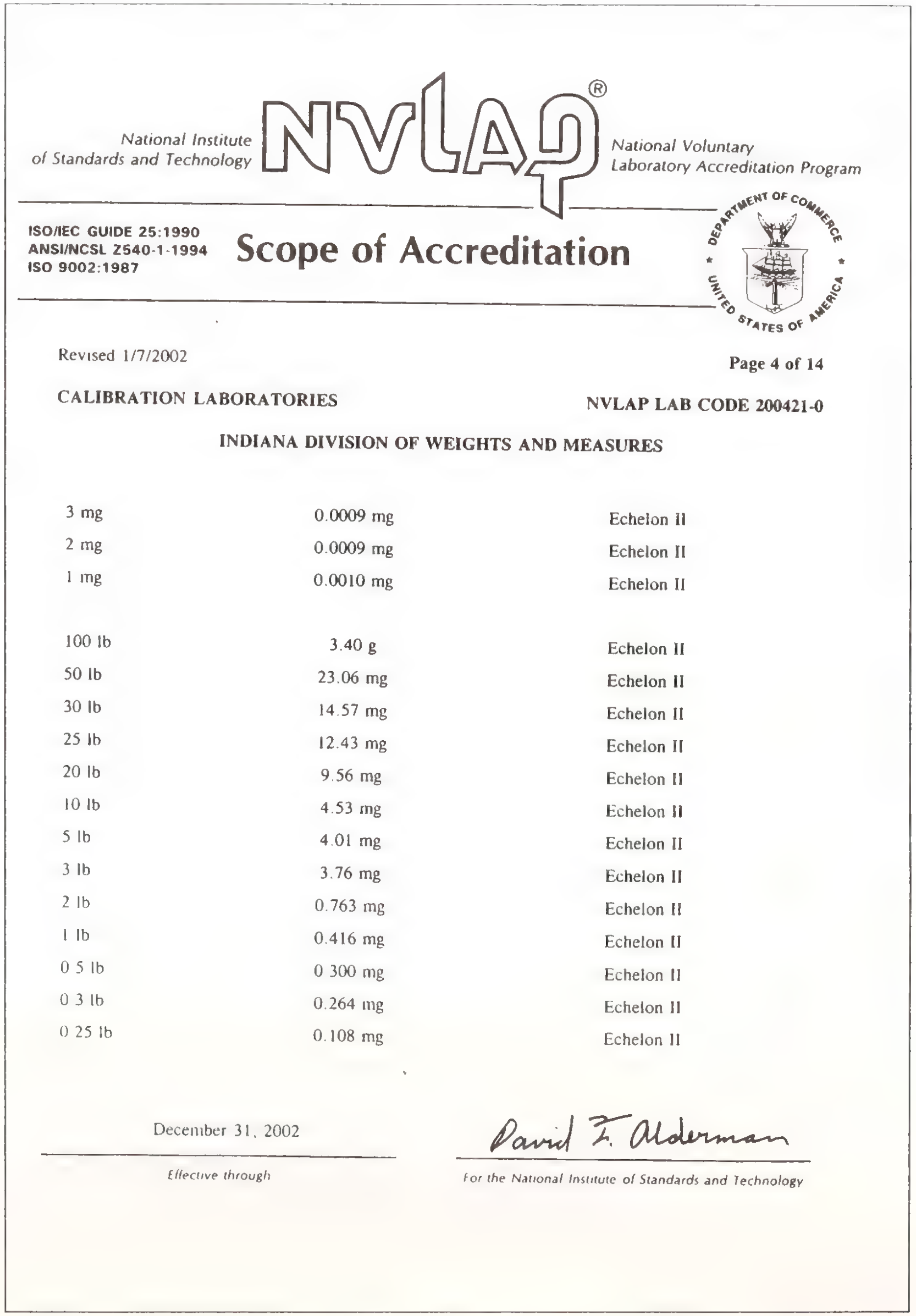

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INDIANA DIVISION OF WEIGHTS AND MEASURES

3 mg	0.0009 mg	Echelon II
2 mg	0.0009 mg	Echelon II
1 mg	0.0010 mg	Echelon II
100 lb	3.40 g	Echelon II
50 lb	23.06 mg	Echelon II
30 lb	14.57 mg	Echelon II
25 lb	12.43 mg	Echelon II
20 lb	9.56 mg	Echelon II
10 lb	4.53 mg	Echelon II
5 lb	4.01 mg	Echelon II
3 lb	3.76 mg	Echelon II
2 lb	0.763 mg	Echelon II
1 lb	0.416 mg	Echelon II
0.5 lb	0.300 mg	Echelon II
0.3 lb	0.264 mg	Echelon II
0.25 lb	0.108 mg	Echelon II

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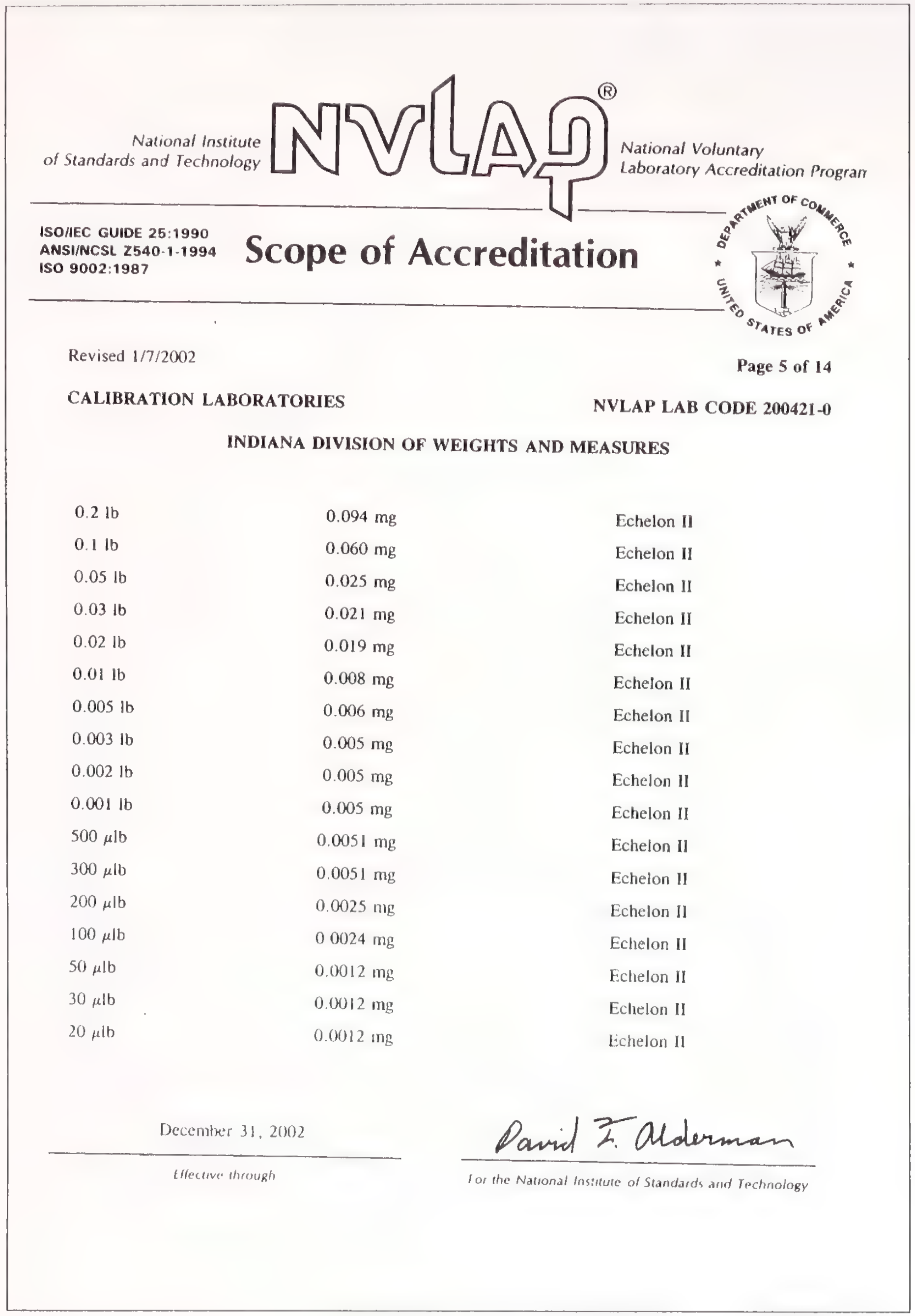

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INDIANA DIVISION OF WEIGHTS AND MEASURES

0.2 lb	0.094 mg	Echelon II
0.1 lb	0.060 mg	Echelon II
0.05 lb	0.025 mg	Echelon II
0.03 lb	0.021 mg	Echelon II
0.02 lb	0.019 mg	Echelon II
0.01 lb	0.008 mg	Echelon II
0.005 lb	0.006 mg	Echelon II
0.003 lb	0.005 mg	Echelon II
0.002 lb	0.005 mg	Echelon II
0.001 lb	0.005 mg	Echelon II
500 μlb	0.0051 mg	Echelon II
300 μlb	0.0051 mg	Echelon II
200 μlb	0.0025 mg	Echelon II
100 μlb	0.0024 mg	Echelon II
50 μlb	0.0012 mg	Echelon II
30 μlb	0.0012 mg	Echelon II
20 μlb	0.0012 mg	Echelon II

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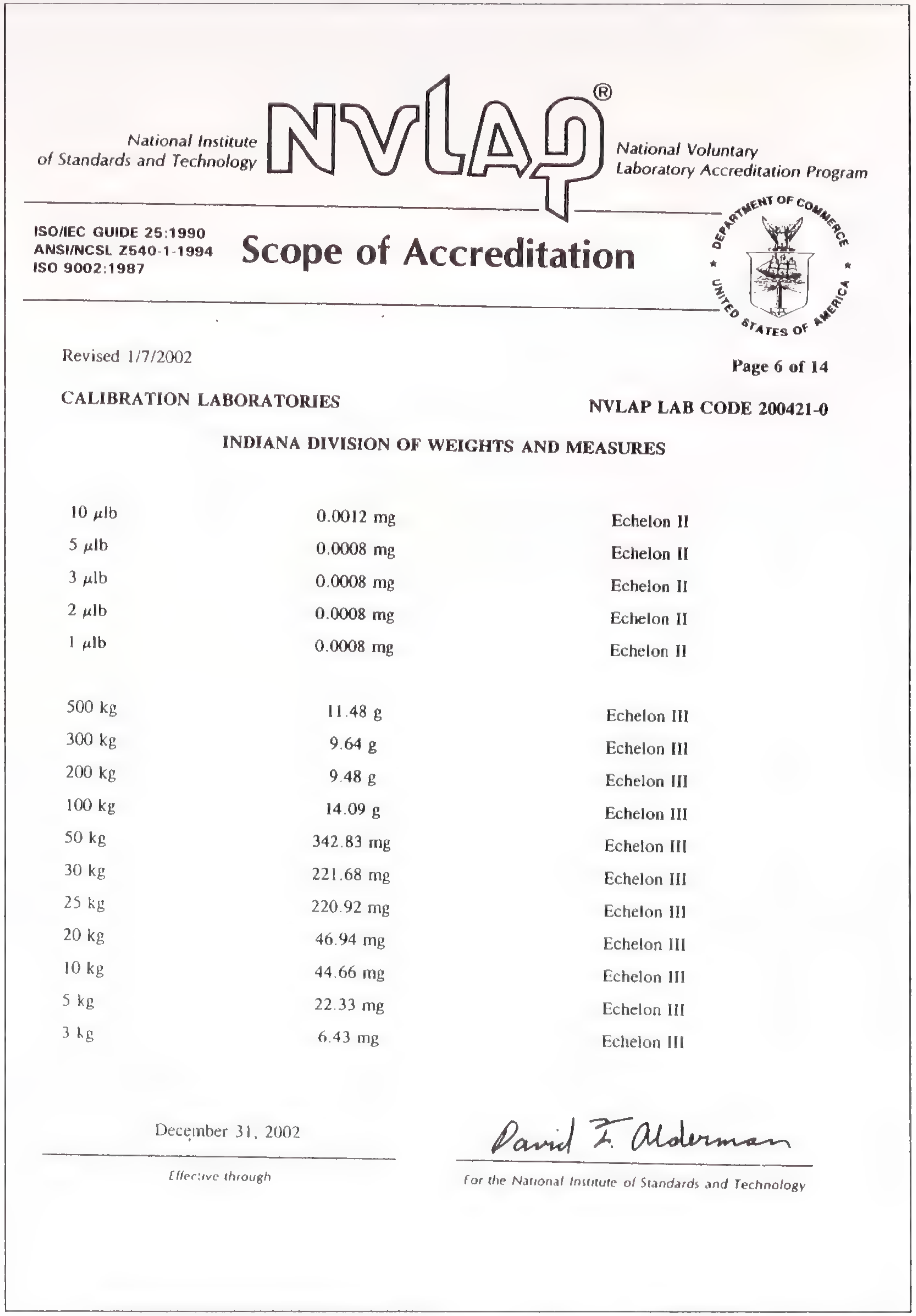

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INDIANA DIVISION OF WEIGHTS AND MEASURES

10 μlb	0.0012 mg	Echelon II
5 μlb	0.0008 mg	Echelon II
3 μlb	0.0008 mg	Echelon II
2 μlb	0.0008 mg	Echelon II
1 μlb	0.0008 mg	Echelon II
500 kg	11.48 g	Echelon III
300 kg	9.64 g	Echelon III
200 kg	9.48 g	Echelon III
100 kg	14.09 g	Echelon III
50 kg	342.83 mg	Echelon III
30 kg	221.68 mg	Echelon III
25 kg	220.92 mg	Echelon III
20 kg	46.94 mg	Echelon III
10 kg	44.66 mg	Echelon III
5 kg	22.33 mg	Echelon III
3 kg	6.43 mg	Echelon III

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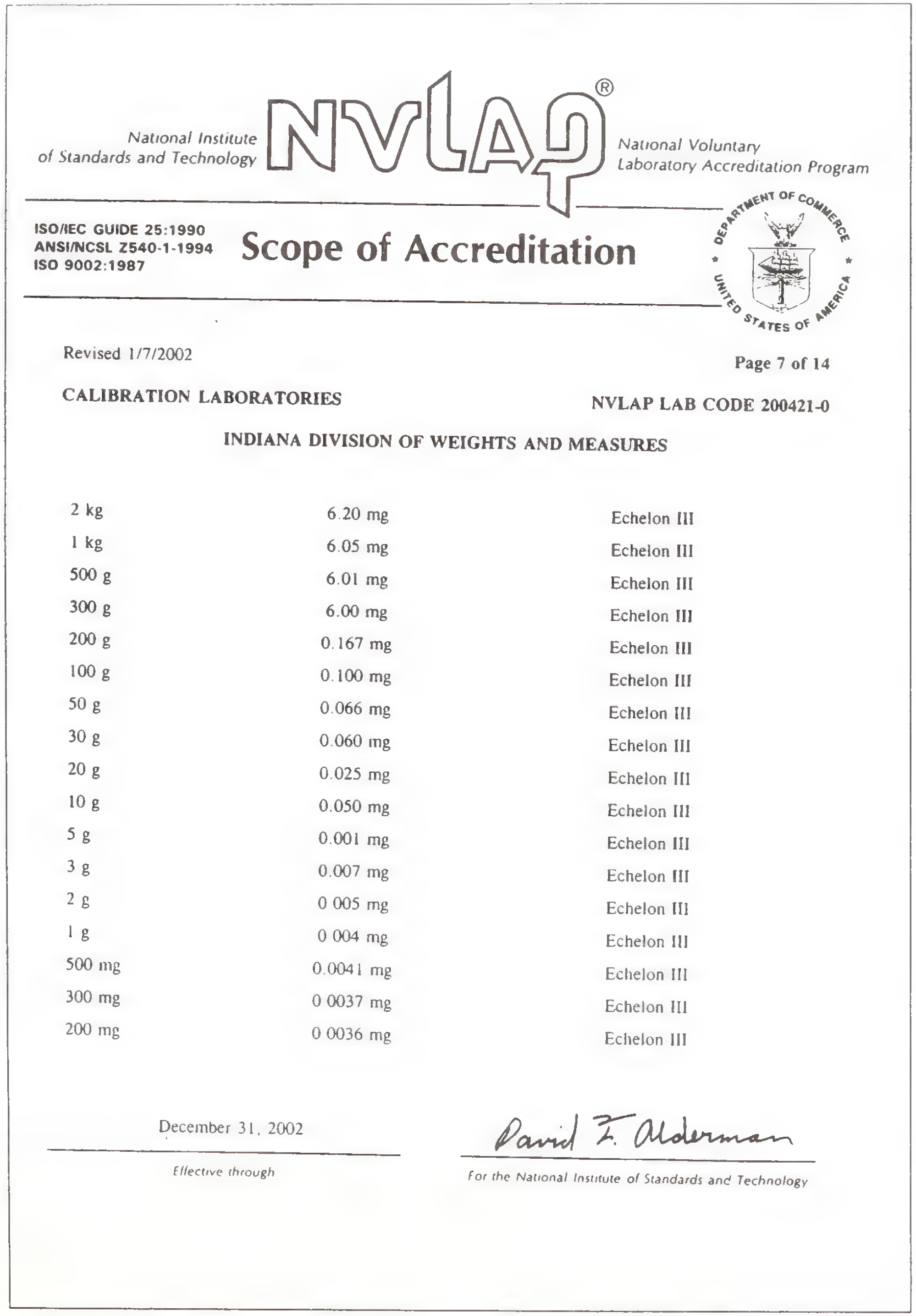

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INDIANA DIVISION OF WEIGHTS AND MEASURES

2 kg	6.20 mg	Echelon III
1 kg	6.05 mg	Echelon III
500 g	6.01 mg	Echelon III
300 g	6.00 mg	Echelon III
200 g	0.167 mg	Echelon III
100 g	0.100 mg	Echelon III
50 g	0.066 mg	Echelon III
30 g	0.060 mg	Echelon III
20 g	0.025 mg	Echelon III
10 g	0.050 mg	Echelon III
5 g	0.001 mg	Echelon III
3 g	0.007 mg	Echelon III
2 g	0.005 mg	Echelon III
1 g	0.004 mg	Echelon III
500 mg	0.0041 mg	Echelon III
300 mg	0.0037 mg	Echelon III
200 mg	0.0036 mg	Echelon III

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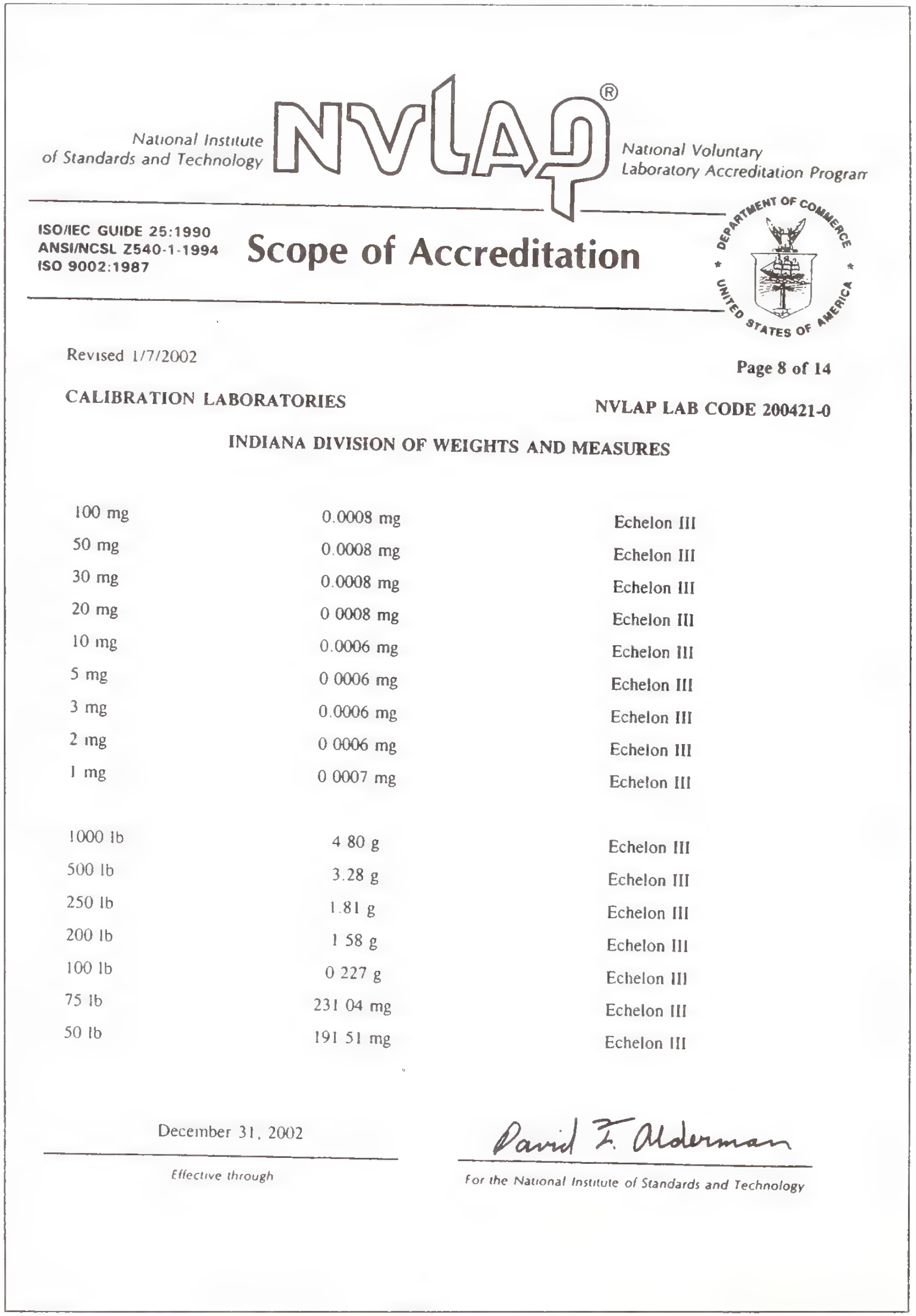

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INDIANA DIVISION OF WEIGHTS AND MEASURES

100 mg	0.0008 mg	Echelon III
50 mg	0.0008 mg	Echelon III
30 mg	0.0008 mg	Echelon III
20 mg	0.0008 mg	Echelon III
10 mg	0.0006 mg	Echelon III
5 mg	0.0006 mg	Echelon III
3 mg	0.0006 mg	Echelon III
2 mg	0.0006 mg	Echelon III
1 mg	0.0007 mg	Echelon III
1000 lb	4.80 g	Echelon III
500 lb	3.28 g	Echelon III
250 lb	1.81 g	Echelon III
200 lb	1.58 g	Echelon III
100 lb	0.227 g	Echelon III
75 lb	231.04 mg	Echelon III
50 lb	191.51 mg	Echelon III

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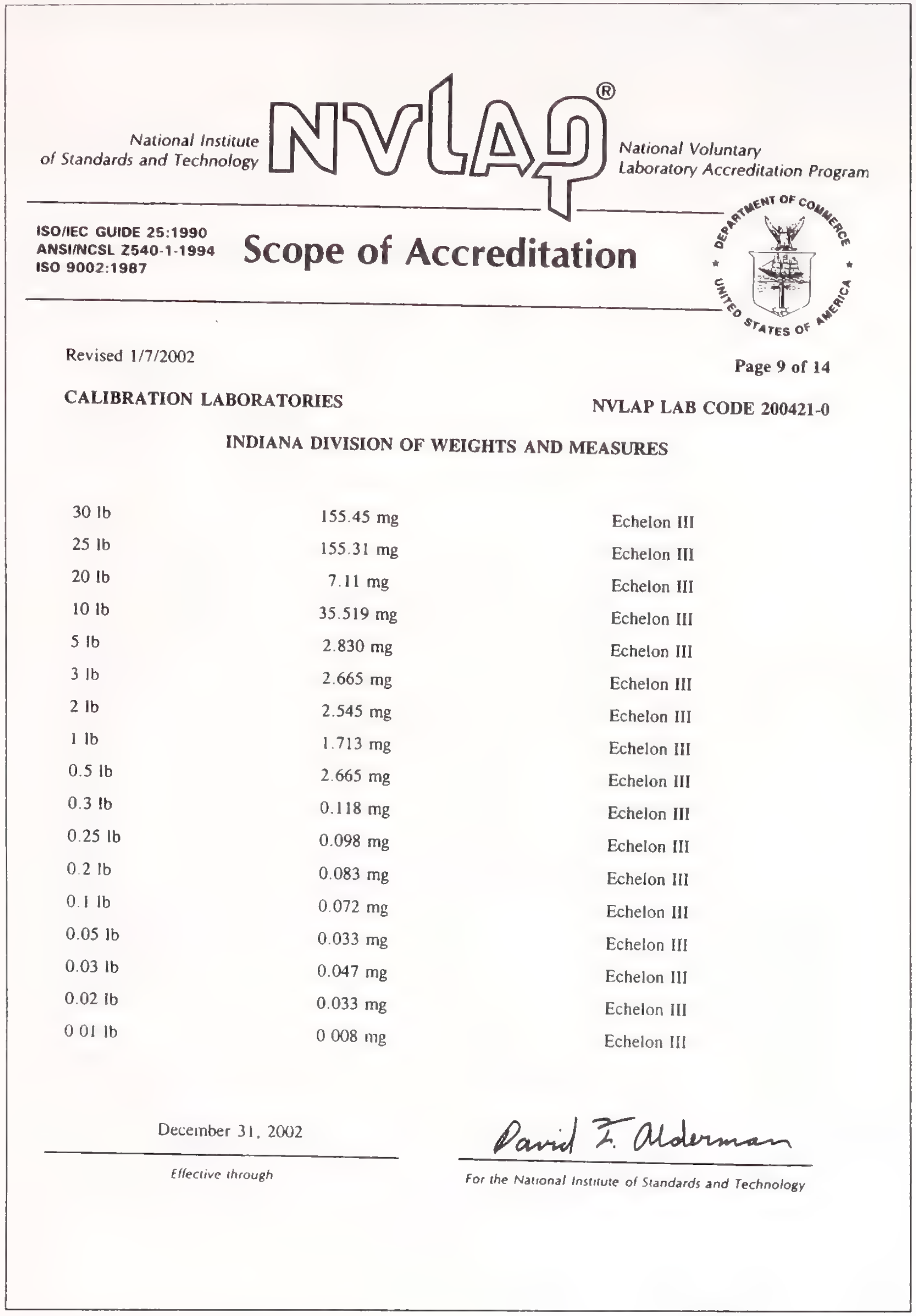

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INDIANA DIVISION OF WEIGHTS AND MEASURES

30 lb	155.45 mg	Echelon III
25 lb	155.31 mg	Echelon III
20 lb	7.11 mg	Echelon III
10 lb	35.519 mg	Echelon III
5 lb	2.830 mg	Echelon III
3 lb	2.665 mg	Echelon III
2 lb	2.545 mg	Echelon III
1 lb	1.713 mg	Echelon III
0.5 lb	2.665 mg	Echelon III
0.3 lb	0.118 mg	Echelon III
0.25 lb	0.098 mg	Echelon III
0.2 lb	0.083 mg	Echelon III
0.1 lb	0.072 mg	Echelon III
0.05 lb	0.033 mg	Echelon III
0.03 lb	0.047 mg	Echelon III
0.02 lb	0.033 mg	Echelon III
0.01 lb	0.008 mg	Echelon III

December 31, 2002
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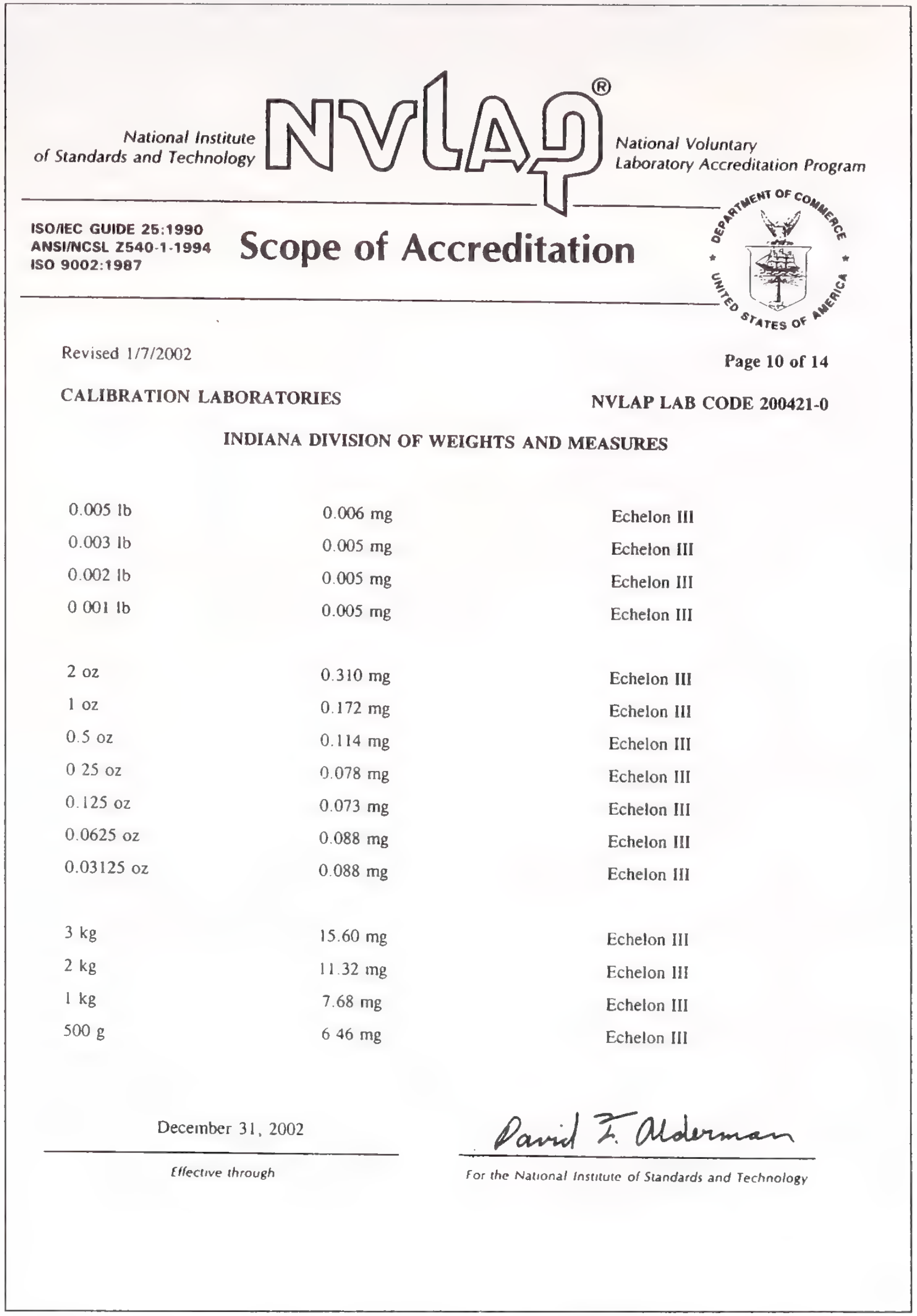
For the National Institute of Standards and Technology



National Institute of Standards and Technology

NVLAP®

National Voluntary Laboratory Accreditation Program

ISO/IEC GUIDE 25:1990
ANSI/NCSL Z540-1-1994
ISO 9002:1987

Scope of Accreditation

DEPARTMENT OF COMMERCE * UNITED STATES OF AMERICA

Revised 1/7/2002

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CALIBRATION LABORATORIES

NVLAP LAB CODE 200421-0

INDIANA DIVISION OF WEIGHTS AND MEASURES

0.005 lb	0.006 mg	Echelon III
0.003 lb	0.005 mg	Echelon III
0.002 lb	0.005 mg	Echelon III
0.001 lb	0.005 mg	Echelon III
2 oz	0.310 mg	Echelon III
1 oz	0.172 mg	Echelon III
0.5 oz	0.114 mg	Echelon III
0.25 oz	0.078 mg	Echelon III
0.125 oz	0.073 mg	Echelon III
0.0625 oz	0.088 mg	Echelon III
0.03125 oz	0.088 mg	Echelon III
3 kg	15.60 mg	Echelon III
2 kg	11.32 mg	Echelon III
1 kg	7.68 mg	Echelon III
500 g	6.46 mg	Echelon III

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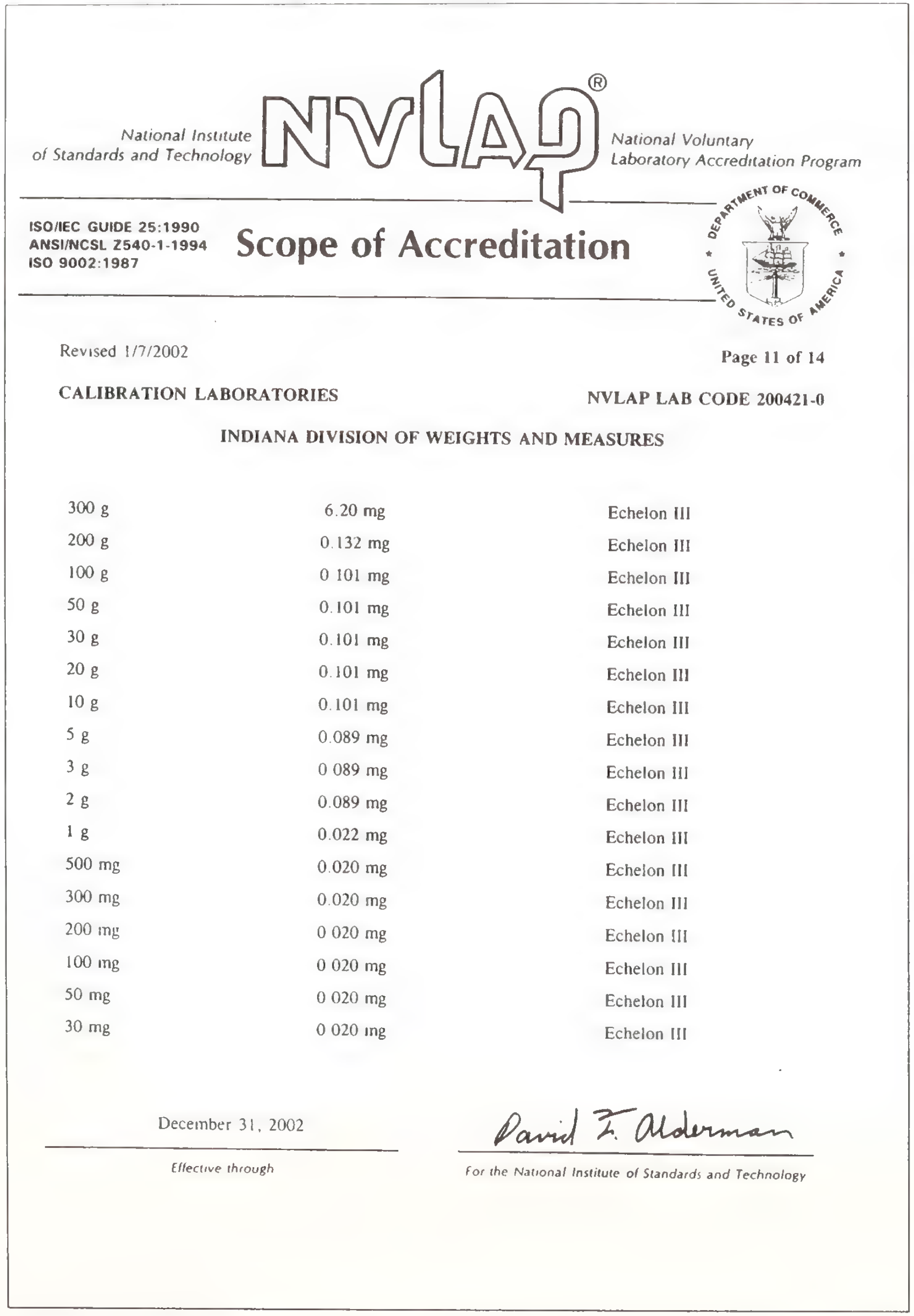

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ISO 9002:1987

Scope of Accreditation

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CALIBRATION LABORATORIES

NVLAP LAB CODE 200421-0

INDIANA DIVISION OF WEIGHTS AND MEASURES

300 g	6.20 mg	Echelon III
200 g	0.132 mg	Echelon III
100 g	0 101 mg	Echelon III
50 g	0.101 mg	Echelon III
30 g	0.101 mg	Echelon III
20 g	0.101 mg	Echelon III
10 g	0.101 mg	Echelon III
5 g	0.089 mg	Echelon III
3 g	0 089 mg	Echelon III
2 g	0.089 mg	Echelon III
1 g	0.022 mg	Echelon III
500 mg	0.020 mg	Echelon III
300 mg	0.020 mg	Echelon III
200 mg	0 020 mg	Echelon III
100 mg	0 020 mg	Echelon III
50 mg	0 020 mg	Echelon III
30 mg	0 020 mg	Echelon III

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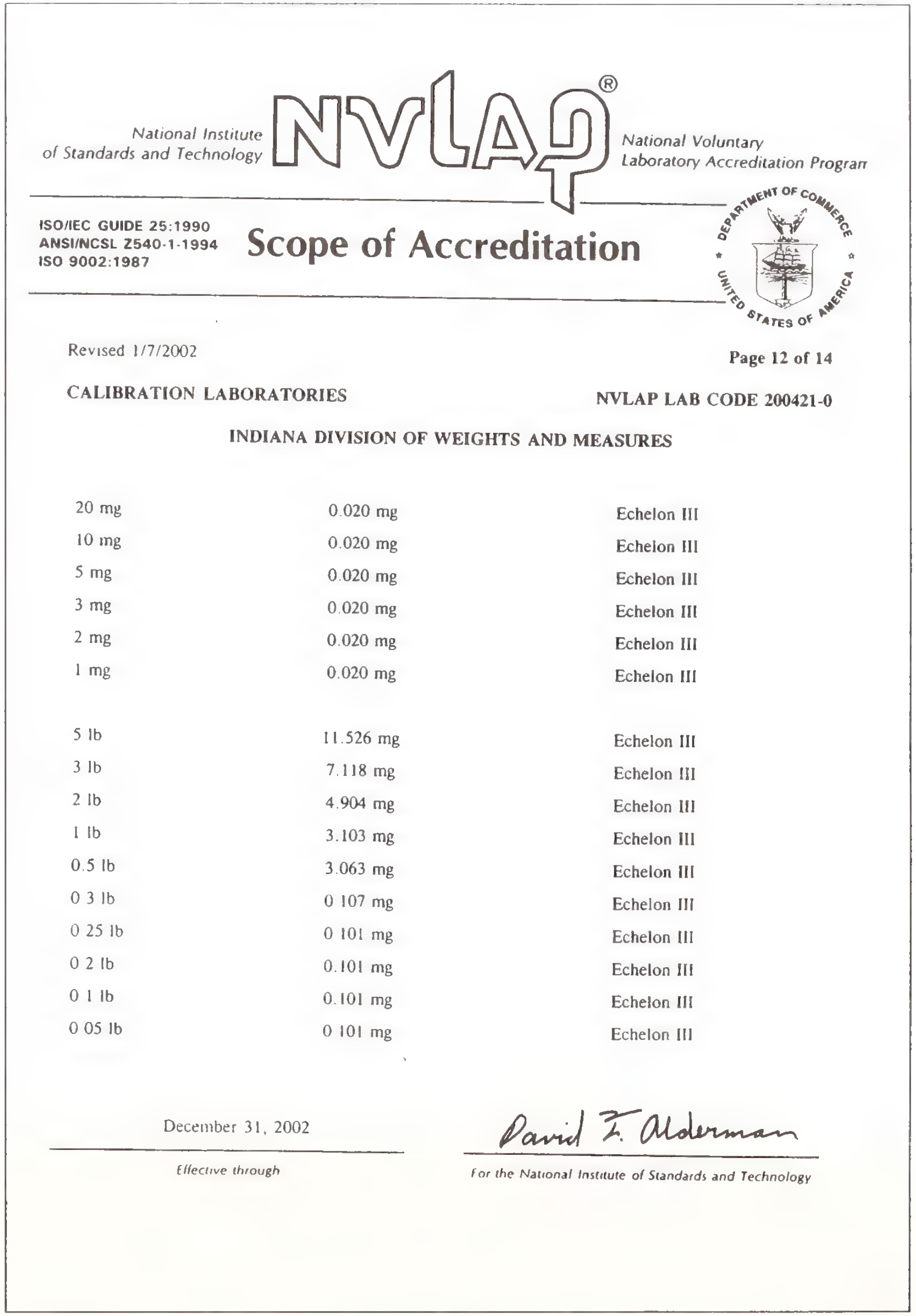

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Scope of Accreditation

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CALIBRATION LABORATORIES

NVLAP LAB CODE 200421-0

INDIANA DIVISION OF WEIGHTS AND MEASURES

20 mg	0.020 mg	Echelon III
10 mg	0.020 mg	Echelon III
5 mg	0.020 mg	Echelon III
3 mg	0.020 mg	Echelon III
2 mg	0.020 mg	Echelon III
1 mg	0.020 mg	Echelon III
5 lb	11.526 mg	Echelon III
3 lb	7.118 mg	Echelon III
2 lb	4.904 mg	Echelon III
1 lb	3.103 mg	Echelon III
0.5 lb	3.063 mg	Echelon III
0 3 lb	0 107 mg	Echelon III
0 25 lb	0 101 mg	Echelon III
0 2 lb	0.101 mg	Echelon III
0 1 lb	0.101 mg	Echelon III
0 05 lb	0 101 mg	Echelon III

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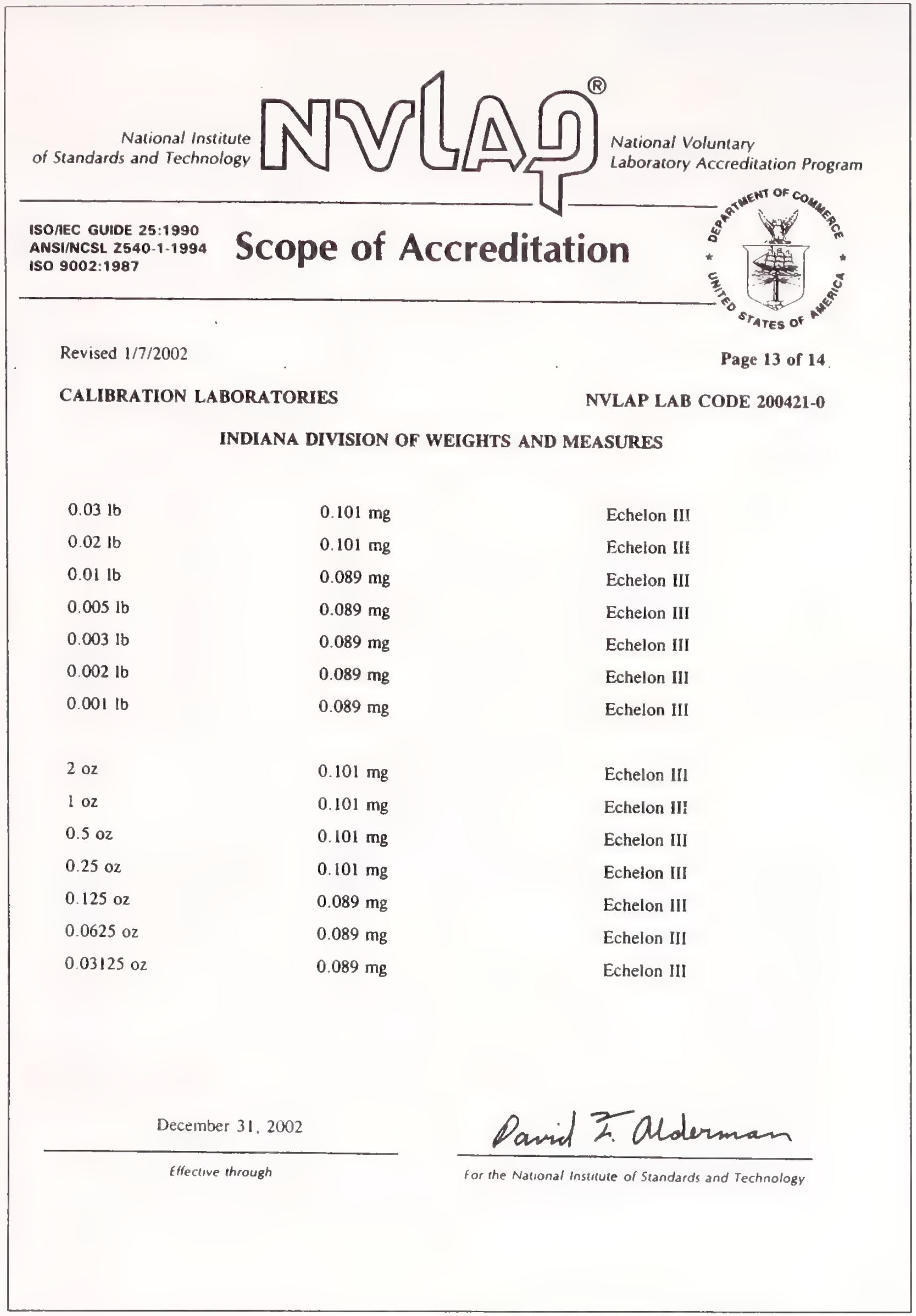

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ISO/IEC GUIDE 25:1990
ANSI/NCSL Z540-1-1994
ISO 9002:1987

Scope of Accreditation

Revised 1/7/2002

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CALIBRATION LABORATORIES

NVLAP LAB CODE 200421-0

INDIANA DIVISION OF WEIGHTS AND MEASURES

0.03 lb	0.101 mg	Echelon III
0.02 lb	0.101 mg	Echelon III
0.01 lb	0.089 mg	Echelon III
0.005 lb	0.089 mg	Echelon III
0.003 lb	0.089 mg	Echelon III
0.002 lb	0.089 mg	Echelon III
0.001 lb	0.089 mg	Echelon III
2 oz	0.101 mg	Echelon III
1 oz	0.101 mg	Echelon III
0.5 oz	0.101 mg	Echelon III
0.25 oz	0.101 mg	Echelon III
0.125 oz	0.089 mg	Echelon III
0.0625 oz	0.089 mg	Echelon III
0.03125 oz	0.089 mg	Echelon III

December 31, 2002
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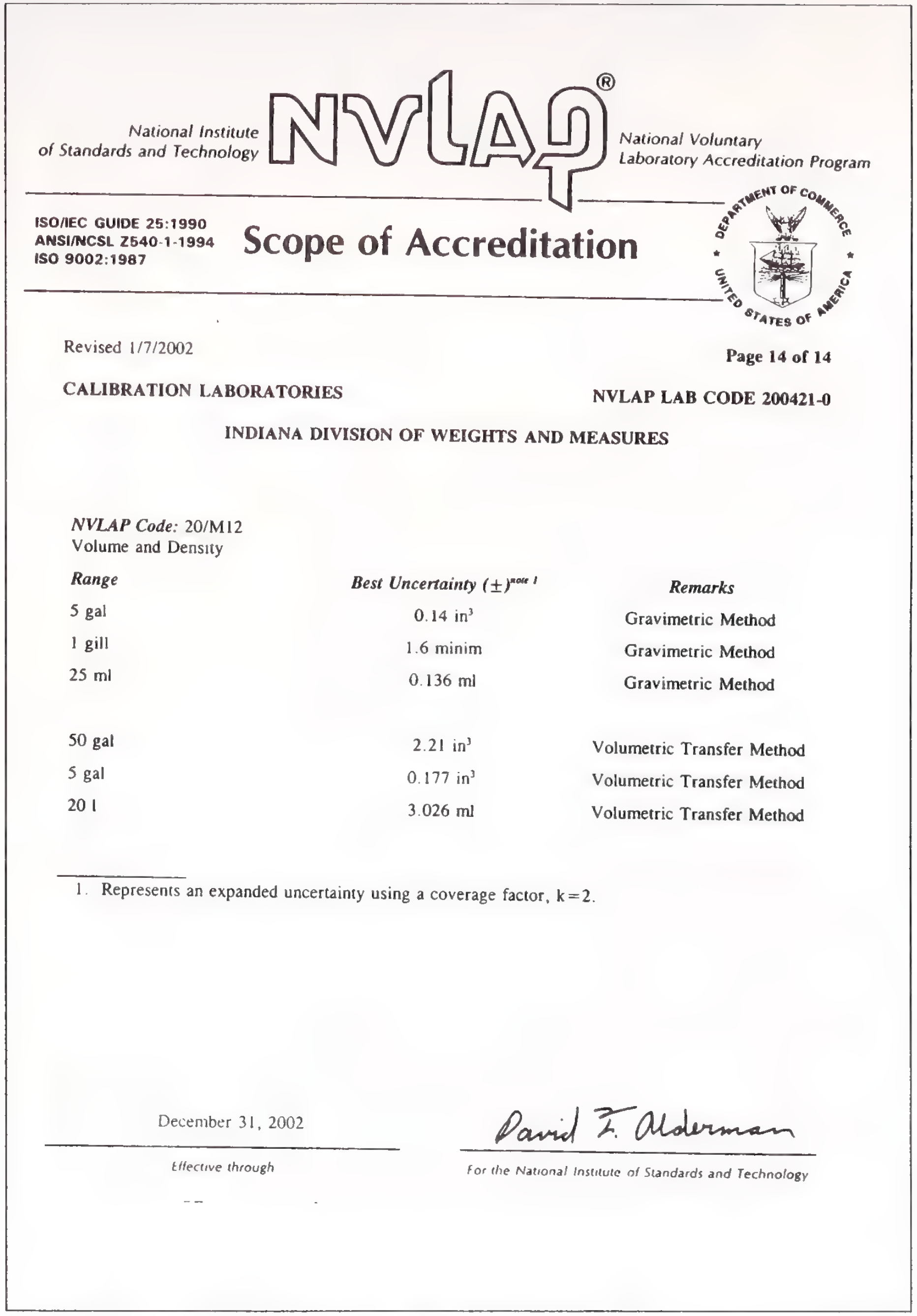
For the National Institute of Standards and Technology



National Institute of Standards and Technology **NVLAP**® National Voluntary Laboratory Accreditation Program

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ANSI/NCSL Z540-1-1994
ISO 9002:1987

Scope of Accreditation

Revised 1/7/2002

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CALIBRATION LABORATORIES

NVLAP LAB CODE 200421-0

INDIANA DIVISION OF WEIGHTS AND MEASURES

NVLAP Code: 20/M12
Volume and Density

Range	*Best Uncertainty* (±)[note 1]	*Remarks*
5 gal	0.14 in^3	Gravimetric Method
1 gill	1.6 minim	Gravimetric Method
25 ml	0.136 ml	Gravimetric Method
50 gal	2.21 in^3	Volumetric Transfer Method
5 gal	0.177 in^3	Volumetric Transfer Method
20 l	3.026 ml	Volumetric Transfer Method

---

1. Represents an expanded uncertainty using a coverage factor, k=2.

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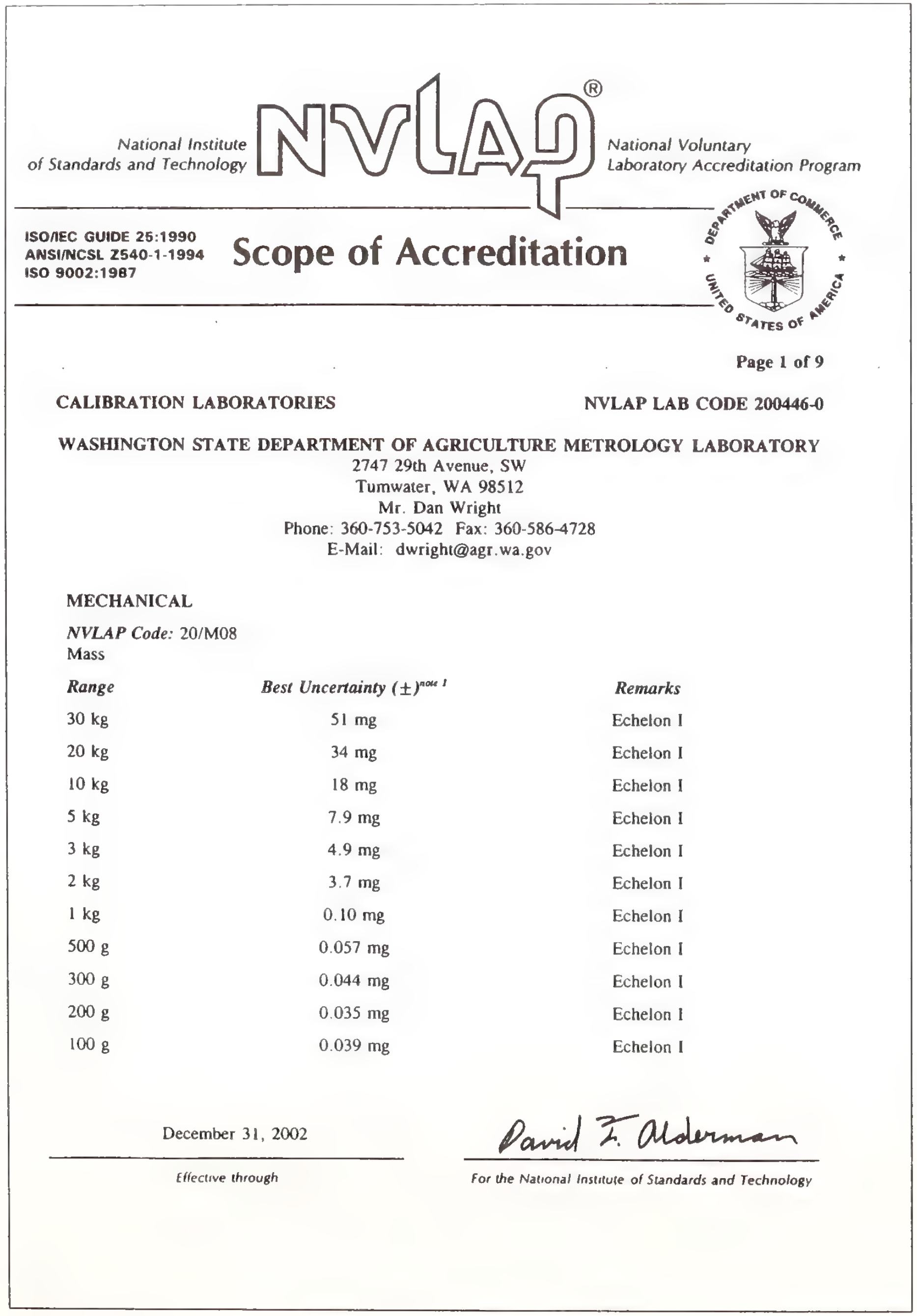

National Institute of Standards and Technology NVLAP® National Voluntary Laboratory Accreditation Program

ISO/IEC GUIDE 25:1990
ANSI/NCSL Z540-1-1994
ISO 9002:1987

Scope of Accreditation

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CALIBRATION LABORATORIES NVLAP LAB CODE 200446-0

WASHINGTON STATE DEPARTMENT OF AGRICULTURE METROLOGY LABORATORY
2747 29th Avenue, SW
Tumwater, WA 98512
Mr. Dan Wright
Phone: 360-753-5042 Fax: 360-586-4728
E-Mail: dwright@agr.wa.gov

MECHANICAL

NVLAP Code: 20/M08
Mass

Range	*Best Uncertainty* $(\pm)^{\text{note 1}}$	*Remarks*
30 kg	51 mg	Echelon I
20 kg	34 mg	Echelon I
10 kg	18 mg	Echelon I
5 kg	7.9 mg	Echelon I
3 kg	4.9 mg	Echelon I
2 kg	3.7 mg	Echelon I
1 kg	0.10 mg	Echelon I
500 g	0.057 mg	Echelon I
300 g	0.044 mg	Echelon I
200 g	0.035 mg	Echelon I
100 g	0.039 mg	Echelon I

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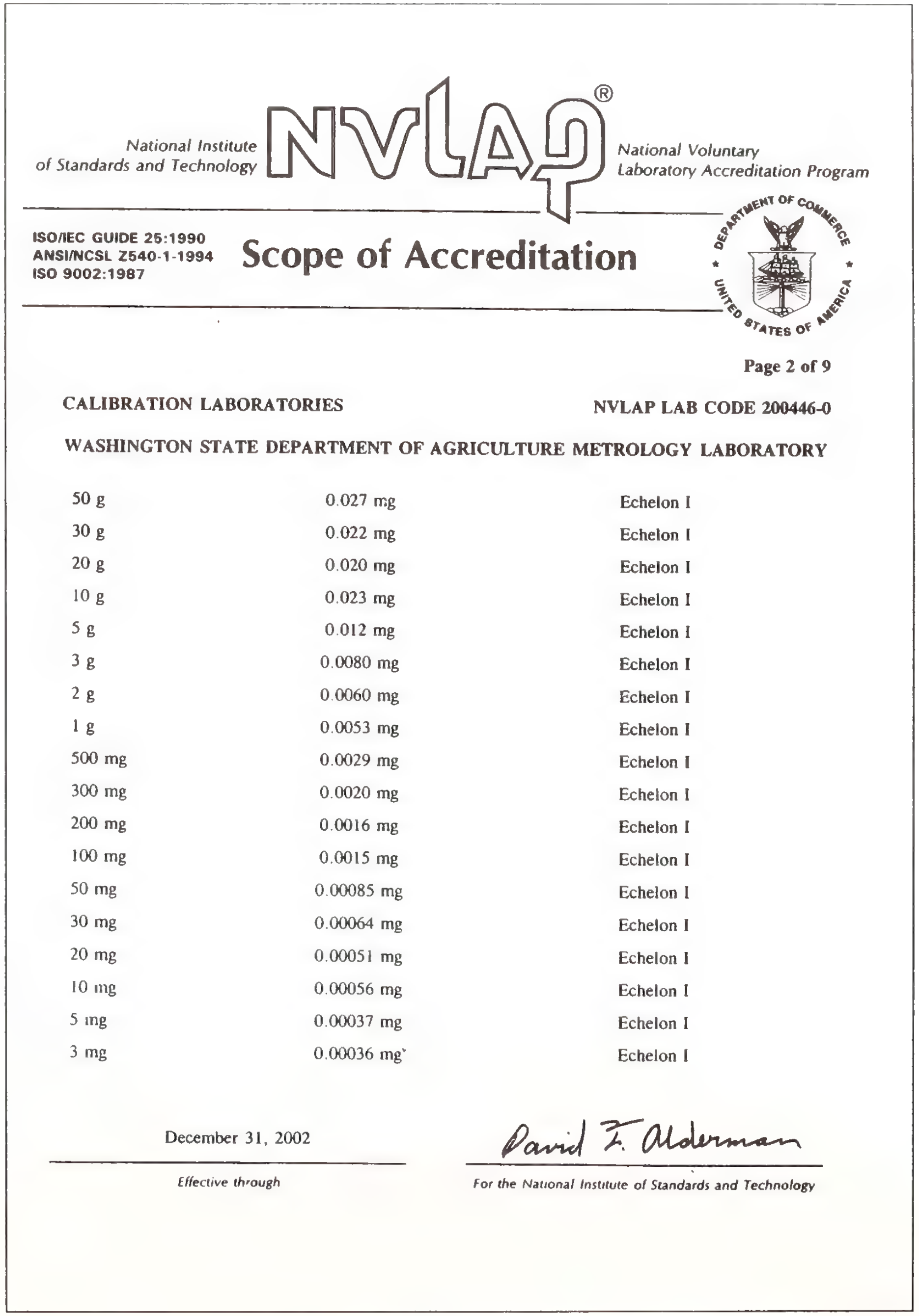

National Institute of Standards and Technology NVLAP® National Voluntary Laboratory Accreditation Program

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Scope of Accreditation

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CALIBRATION LABORATORIES NVLAP LAB CODE 200446-0

WASHINGTON STATE DEPARTMENT OF AGRICULTURE METROLOGY LABORATORY

50 g	0.027 mg	Echelon I
30 g	0.022 mg	Echelon I
20 g	0.020 mg	Echelon I
10 g	0.023 mg	Echelon I
5 g	0.012 mg	Echelon I
3 g	0.0080 mg	Echelon I
2 g	0.0060 mg	Echelon I
1 g	0.0053 mg	Echelon I
500 mg	0.0029 mg	Echelon I
300 mg	0.0020 mg	Echelon I
200 mg	0.0016 mg	Echelon I
100 mg	0.0015 mg	Echelon I
50 mg	0.00085 mg	Echelon I
30 mg	0.00064 mg	Echelon I
20 mg	0.00051 mg	Echelon I
10 mg	0.00056 mg	Echelon I
5 mg	0.00037 mg	Echelon I
3 mg	0.00036 mg	Echelon I

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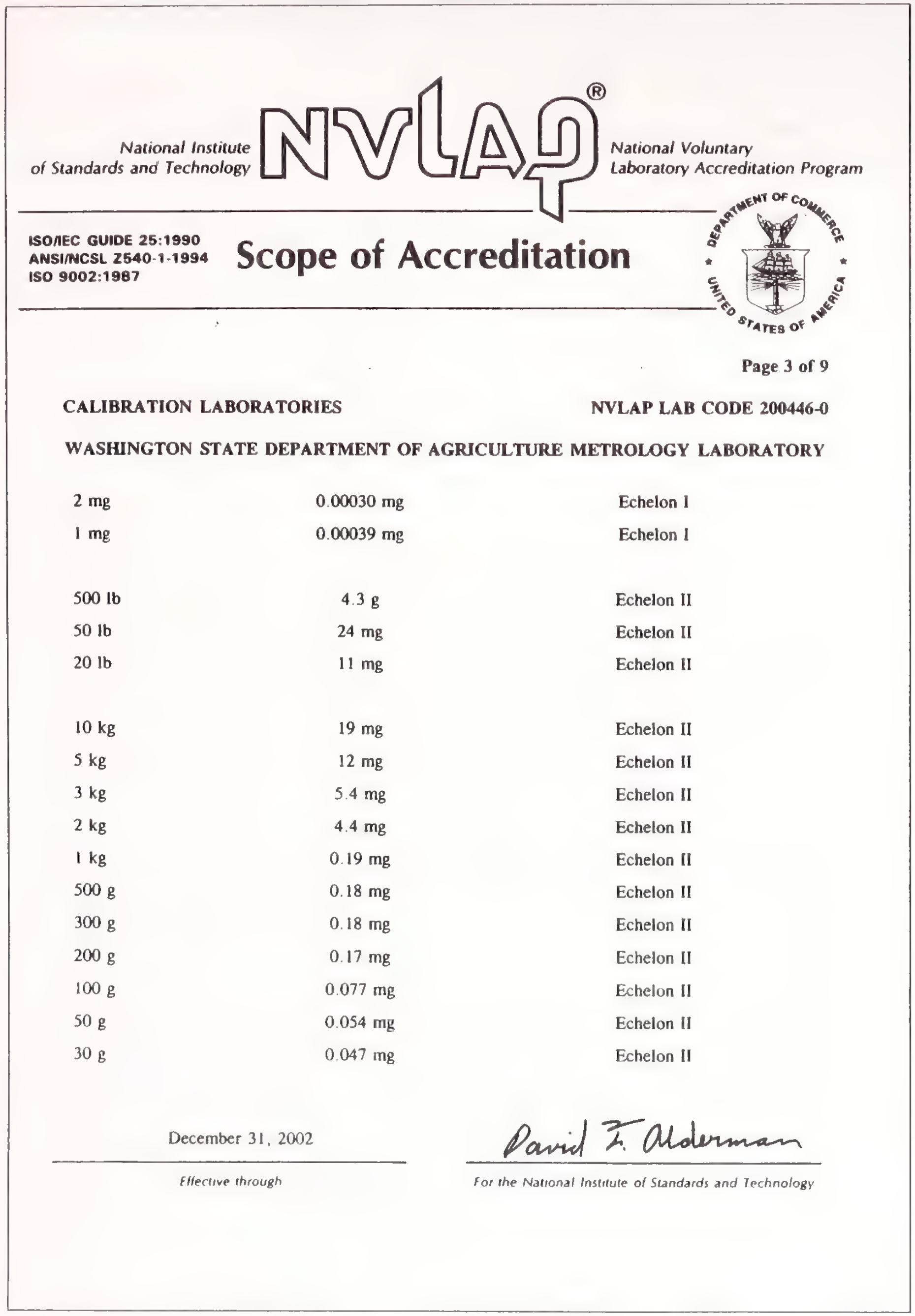

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Scope of Accreditation

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CALIBRATION LABORATORIES NVLAP LAB CODE 200446-0

WASHINGTON STATE DEPARTMENT OF AGRICULTURE METROLOGY LABORATORY

2 mg	0.00030 mg	Echelon I
1 mg	0.00039 mg	Echelon I
500 lb	4.3 g	Echelon II
50 lb	24 mg	Echelon II
20 lb	11 mg	Echelon II
10 kg	19 mg	Echelon II
5 kg	12 mg	Echelon II
3 kg	5.4 mg	Echelon II
2 kg	4.4 mg	Echelon II
1 kg	0.19 mg	Echelon II
500 g	0.18 mg	Echelon II
300 g	0.18 mg	Echelon II
200 g	0.17 mg	Echelon II
100 g	0.077 mg	Echelon II
50 g	0.054 mg	Echelon II
30 g	0.047 mg	Echelon II

December 31, 2002
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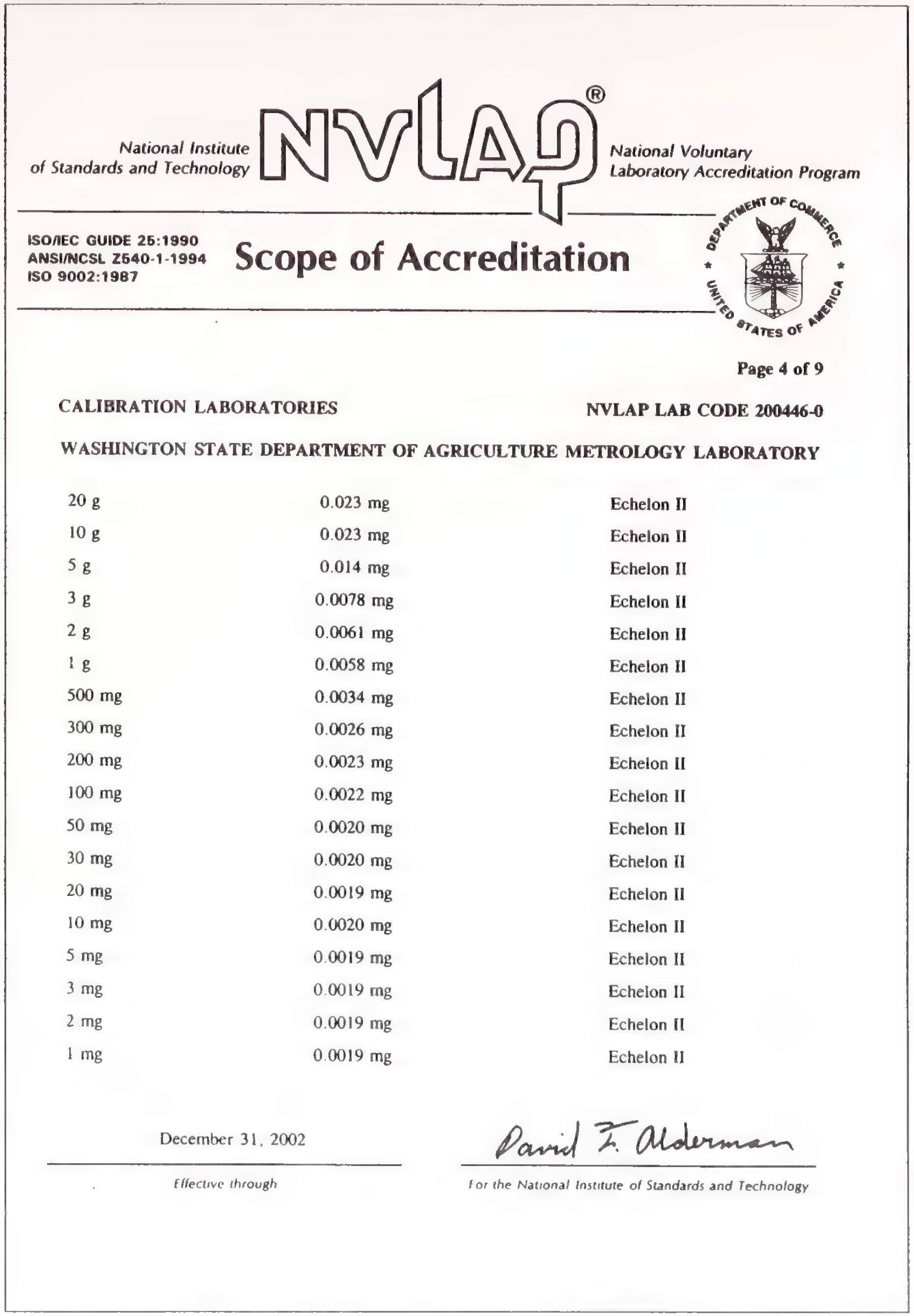

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Scope of Accreditation

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CALIBRATION LABORATORIES NVLAP LAB CODE 200446-0

WASHINGTON STATE DEPARTMENT OF AGRICULTURE METROLOGY LABORATORY

20 g	0.023 mg	Echelon II
10 g	0.023 mg	Echelon II
5 g	0.014 mg	Echelon II
3 g	0.0078 mg	Echelon II
2 g	0.0061 mg	Echelon II
1 g	0.0058 mg	Echelon II
500 mg	0.0034 mg	Echelon II
300 mg	0.0026 mg	Echelon II
200 mg	0.0023 mg	Echelon II
100 mg	0.0022 mg	Echelon II
50 mg	0.0020 mg	Echelon II
30 mg	0.0020 mg	Echelon II
20 mg	0.0019 mg	Echelon II
10 mg	0.0020 mg	Echelon II
5 mg	0.0019 mg	Echelon II
3 mg	0.0019 mg	Echelon II
2 mg	0.0019 mg	Echelon II
1 mg	0.0019 mg	Echelon II

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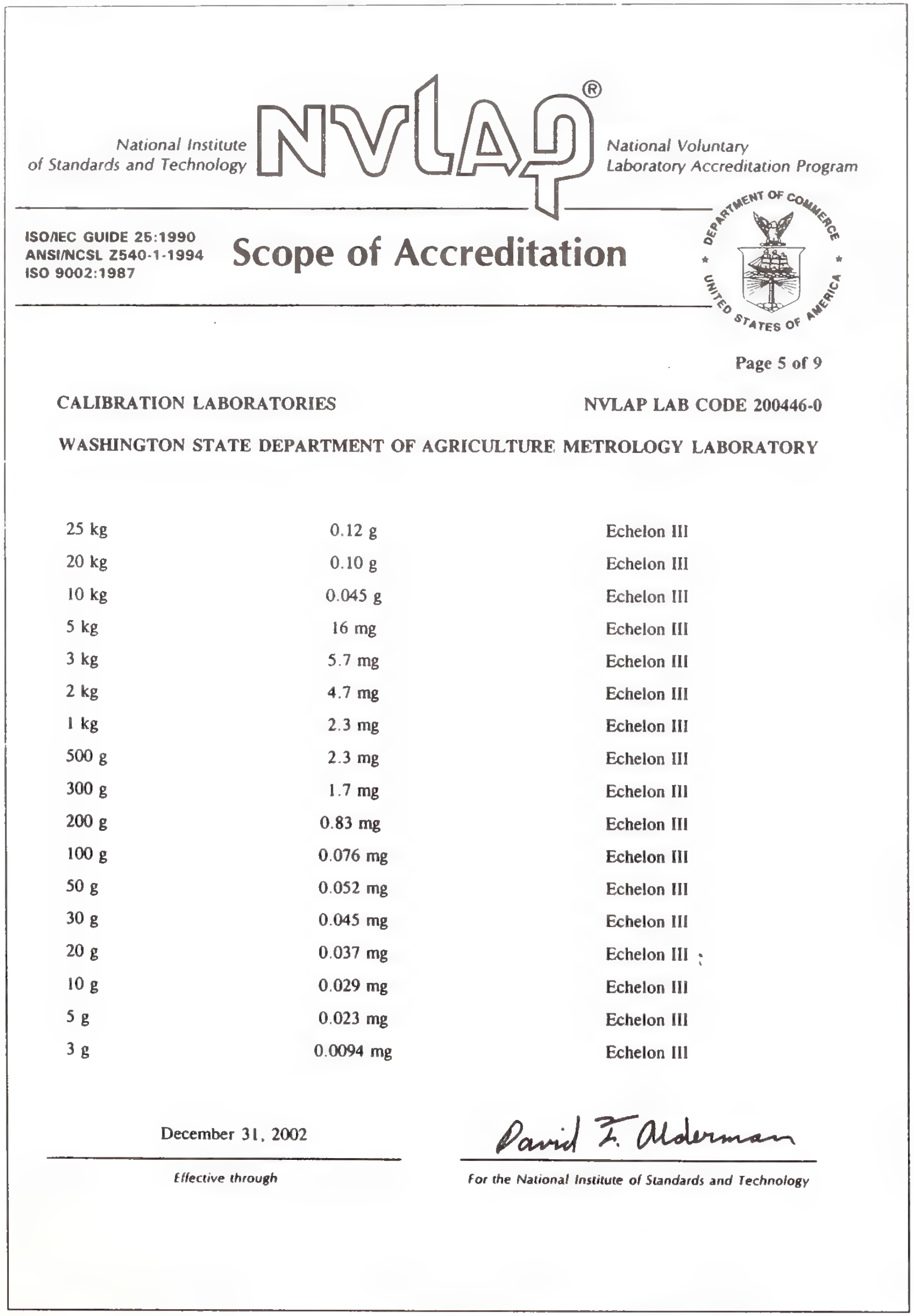

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Scope of Accreditation

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CALIBRATION LABORATORIES NVLAP LAB CODE 200446-0

WASHINGTON STATE DEPARTMENT OF AGRICULTURE METROLOGY LABORATORY

25 kg	0.12 g	Echelon III
20 kg	0.10 g	Echelon III
10 kg	0.045 g	Echelon III
5 kg	16 mg	Echelon III
3 kg	5.7 mg	Echelon III
2 kg	4.7 mg	Echelon III
1 kg	2.3 mg	Echelon III
500 g	2.3 mg	Echelon III
300 g	1.7 mg	Echelon III
200 g	0.83 mg	Echelon III
100 g	0.076 mg	Echelon III
50 g	0.052 mg	Echelon III
30 g	0.045 mg	Echelon III
20 g	0.037 mg	Echelon III
10 g	0.029 mg	Echelon III
5 g	0.023 mg	Echelon III
3 g	0.0094 mg	Echelon III

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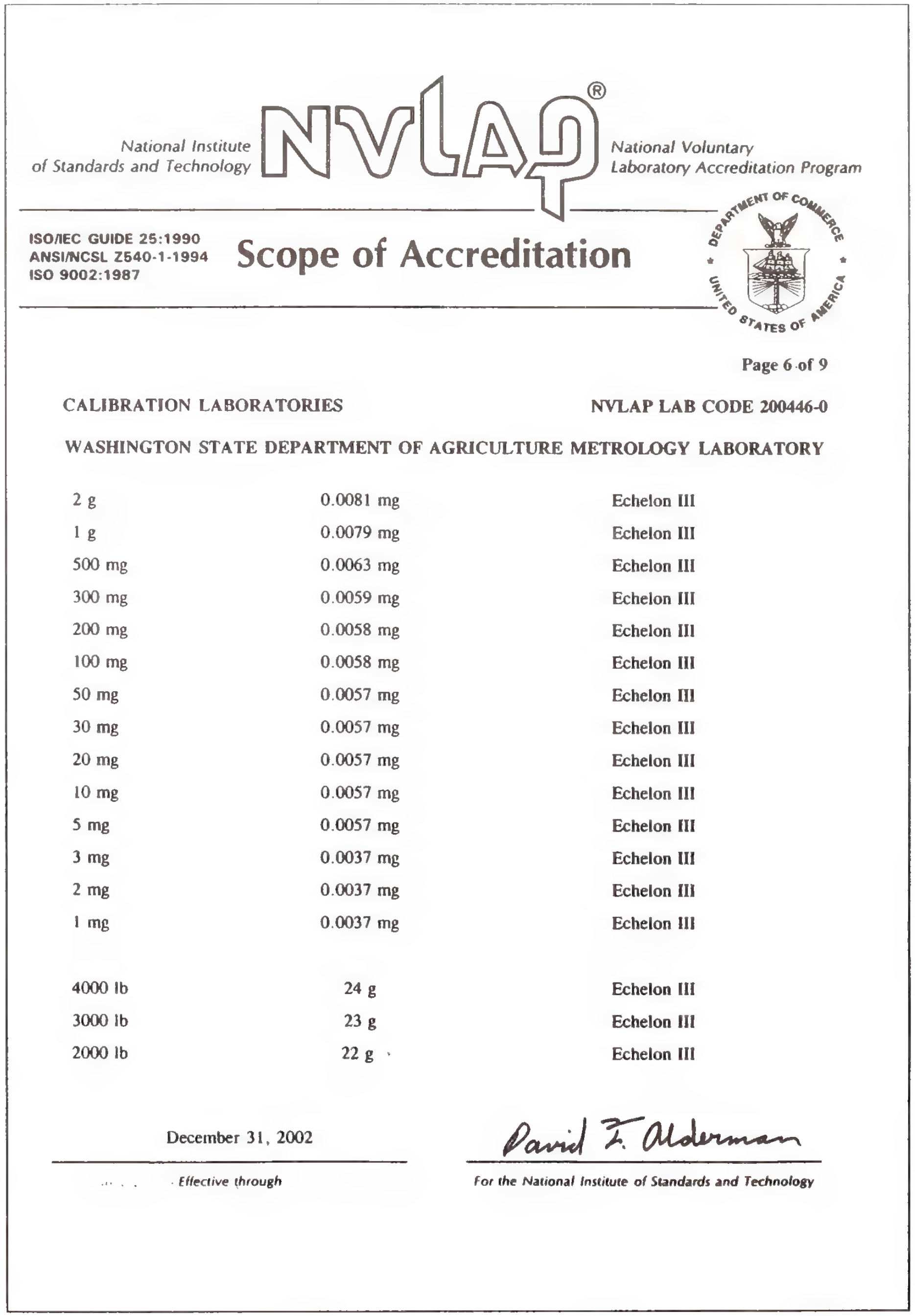

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ISO 9002:1987

Scope of Accreditation

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CALIBRATION LABORATORIES NVLAP LAB CODE 200446-0

WASHINGTON STATE DEPARTMENT OF AGRICULTURE METROLOGY LABORATORY

2 g	0.0081 mg	Echelon III
1 g	0.0079 mg	Echelon III
500 mg	0.0063 mg	Echelon III
300 mg	0.0059 mg	Echelon III
200 mg	0.0058 mg	Echelon III
100 mg	0.0058 mg	Echelon III
50 mg	0.0057 mg	Echelon III
30 mg	0.0057 mg	Echelon III
20 mg	0.0057 mg	Echelon III
10 mg	0.0057 mg	Echelon III
5 mg	0.0057 mg	Echelon III
3 mg	0.0037 mg	Echelon III
2 mg	0.0037 mg	Echelon III
1 mg	0.0037 mg	Echelon III
4000 lb	24 g	Echelon III
3000 lb	23 g	Echelon III
2000 lb	22 g	Echelon III

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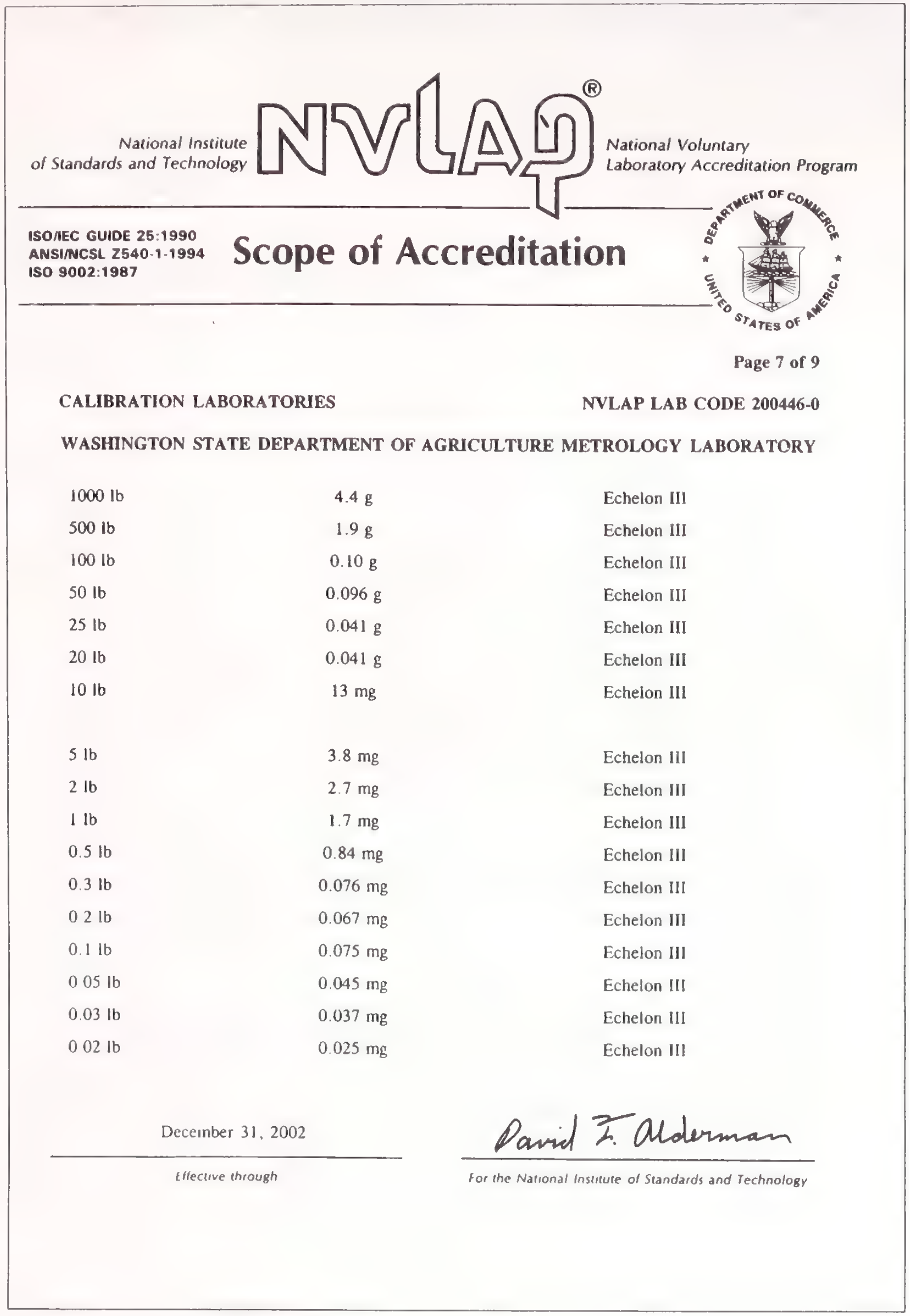

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CALIBRATION LABORATORIES — NVLAP LAB CODE 200446-0

WASHINGTON STATE DEPARTMENT OF AGRICULTURE METROLOGY LABORATORY

1000 lb	4.4 g	Echelon III
500 lb	1.9 g	Echelon III
100 lb	0.10 g	Echelon III
50 lb	0.096 g	Echelon III
25 lb	0.041 g	Echelon III
20 lb	0.041 g	Echelon III
10 lb	13 mg	Echelon III
5 lb	3.8 mg	Echelon III
2 lb	2.7 mg	Echelon III
1 lb	1.7 mg	Echelon III
0.5 lb	0.84 mg	Echelon III
0.3 lb	0.076 mg	Echelon III
0.2 lb	0.067 mg	Echelon III
0.1 lb	0.075 mg	Echelon III
0.05 lb	0.045 mg	Echelon III
0.03 lb	0.037 mg	Echelon III
0.02 lb	0.025 mg	Echelon III

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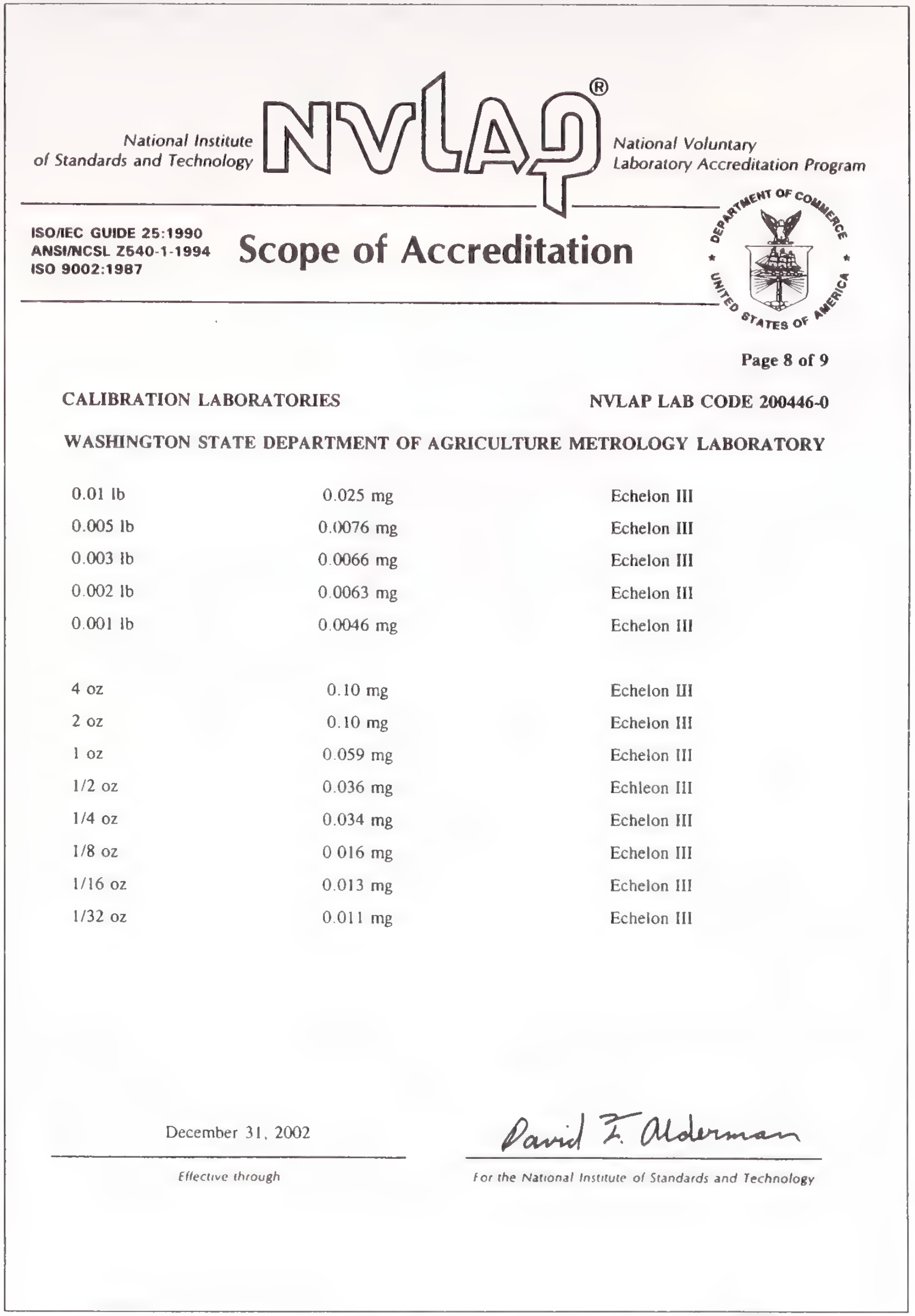

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ISO 9002:1987

Scope of Accreditation

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CALIBRATION LABORATORIES — NVLAP LAB CODE 200446-0

WASHINGTON STATE DEPARTMENT OF AGRICULTURE METROLOGY LABORATORY

0.01 lb	0.025 mg	Echelon III
0.005 lb	0.0076 mg	Echelon III
0.003 lb	0.0066 mg	Echelon III
0.002 lb	0.0063 mg	Echelon III
0.001 lb	0.0046 mg	Echelon III
4 oz	0.10 mg	Echelon III
2 oz	0.10 mg	Echelon III
1 oz	0.059 mg	Echelon III
1/2 oz	0.036 mg	Echleon III
1/4 oz	0.034 mg	Echelon III
1/8 oz	0.016 mg	Echelon III
1/16 oz	0.013 mg	Echelon III
1/32 oz	0.011 mg	Echelon III

December 31, 2002
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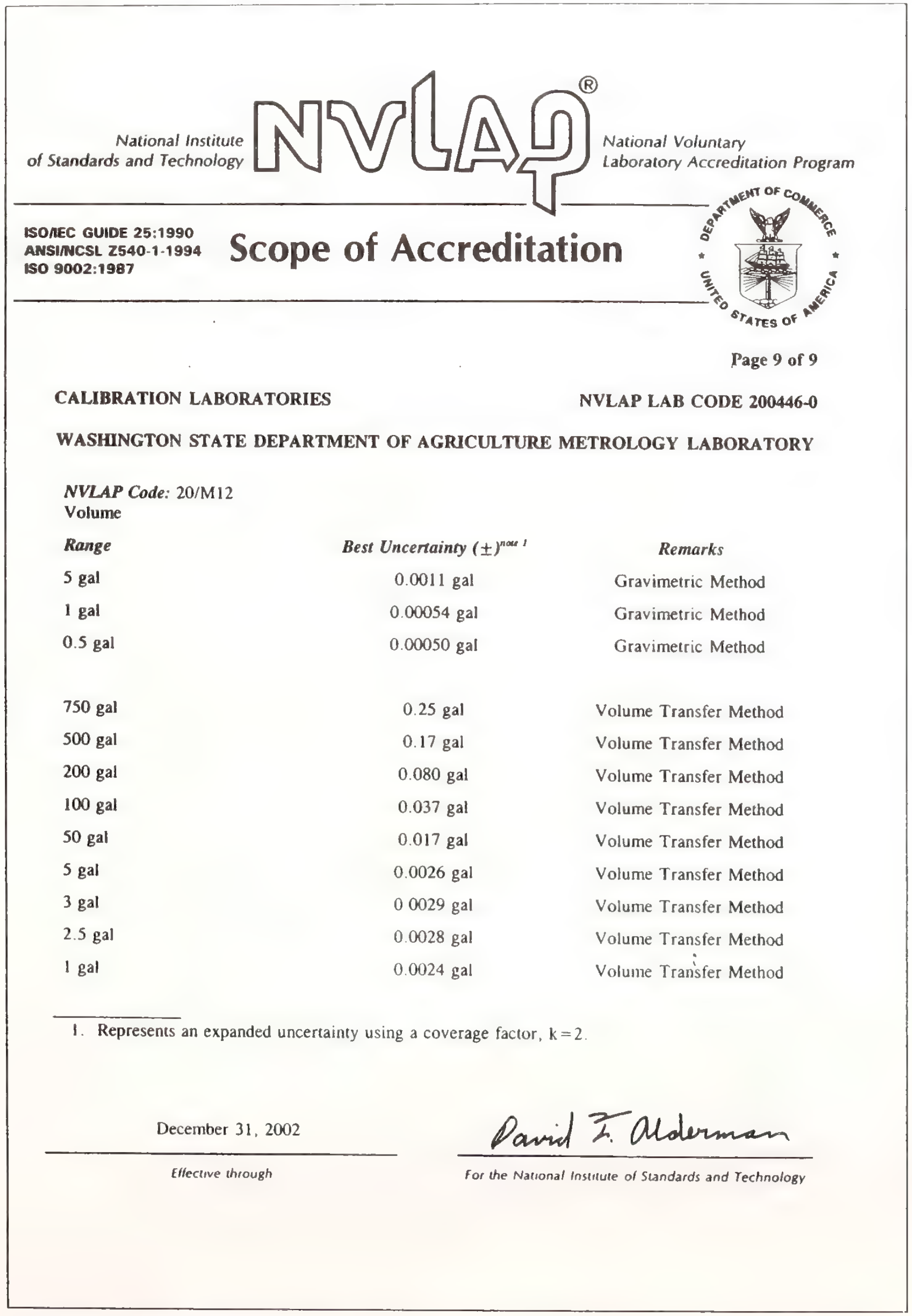

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Scope of Accreditation

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CALIBRATION LABORATORIES **NVLAP LAB CODE 200446-0**

WASHINGTON STATE DEPARTMENT OF AGRICULTURE METROLOGY LABORATORY

NVLAP Code: 20/M12
Volume

Range	*Best Uncertainty* (±)[note 1]	*Remarks*
5 gal	0.0011 gal	Gravimetric Method
1 gal	0.00054 gal	Gravimetric Method
0.5 gal	0.00050 gal	Gravimetric Method
750 gal	0.25 gal	Volume Transfer Method
500 gal	0.17 gal	Volume Transfer Method
200 gal	0.080 gal	Volume Transfer Method
100 gal	0.037 gal	Volume Transfer Method
50 gal	0.017 gal	Volume Transfer Method
5 gal	0.0026 gal	Volume Transfer Method
3 gal	0.0029 gal	Volume Transfer Method
2.5 gal	0.0028 gal	Volume Transfer Method
1 gal	0.0024 gal	Volume Transfer Method

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1. Represents an expanded uncertainty using a coverage factor, k = 2.

December 31, 2002
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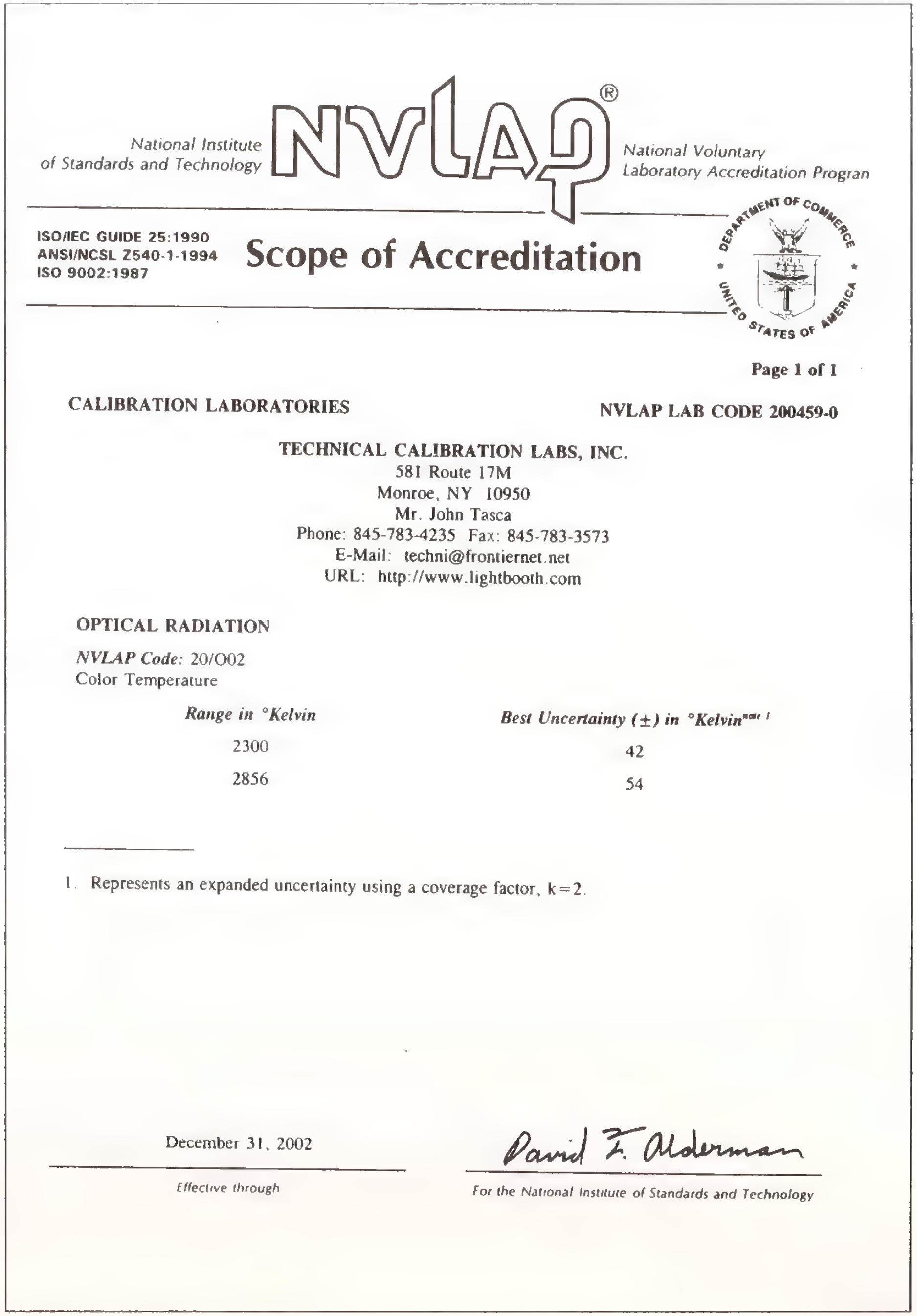

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Scope of Accreditation

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CALIBRATION LABORATORIES **NVLAP LAB CODE 200459-0**

TECHNICAL CALIBRATION LABS, INC.
581 Route 17M
Monroe, NY 10950
Mr. John Tasca
Phone: 845-783-4235 Fax: 845-783-3573
E-Mail: techni@frontiernet.net
URL: http://www.lightbooth.com

OPTICAL RADIATION

NVLAP Code: 20/O02
Color Temperature

Range in °Kelvin	*Best Uncertainty* (±) *in °Kelvin*[note 1]
2300	42
2856	54

---

1. Represents an expanded uncertainty using a coverage factor, k = 2.

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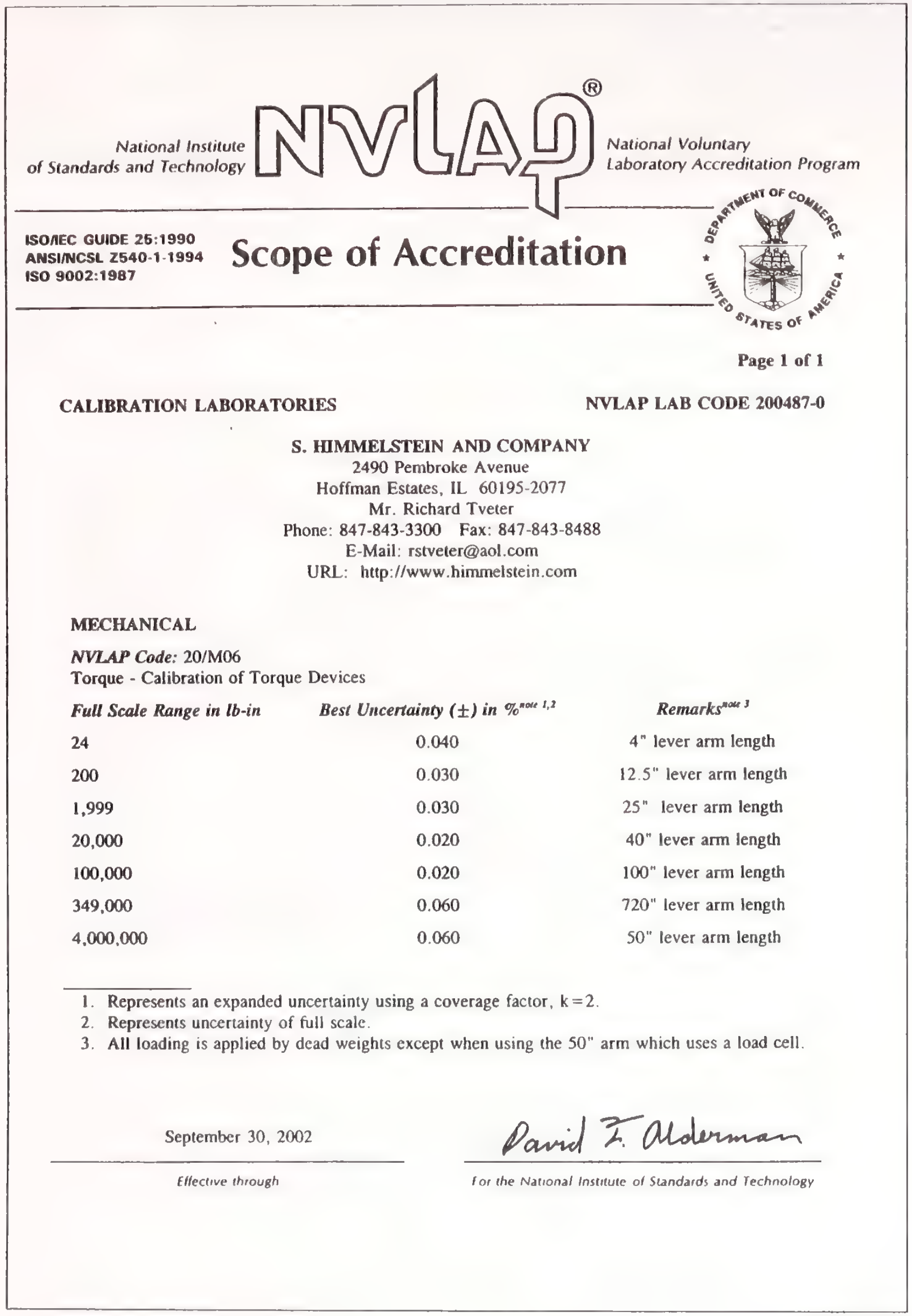

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ISO 9002:1987

Scope of Accreditation

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CALIBRATION LABORATORIES | **NVLAP LAB CODE 200487-0**

S. HIMMELSTEIN AND COMPANY
2490 Pembroke Avenue
Hoffman Estates, IL 60195-2077
Mr. Richard Tveter
Phone: 847-843-3300 Fax: 847-843-8488
E-Mail: rstveter@aol.com
URL: http://www.himmelstein.com

MECHANICAL

NVLAP Code: 20/M06
Torque - Calibration of Torque Devices

Full Scale Range in lb-in	*Best Uncertainty (±) in %*[note 1,2]	*Remarks*[note 3]
24	0.040	4" lever arm length
200	0.030	12.5" lever arm length
1,999	0.030	25" lever arm length
20,000	0.020	40" lever arm length
100,000	0.020	100" lever arm length
349,000	0.060	720" lever arm length
4,000,000	0.060	50" lever arm length

---

1. Represents an expanded uncertainty using a coverage factor, k=2.
2. Represents uncertainty of full scale.
3. All loading is applied by dead weights except when using the 50" arm which uses a load cell.

September 30, 2002
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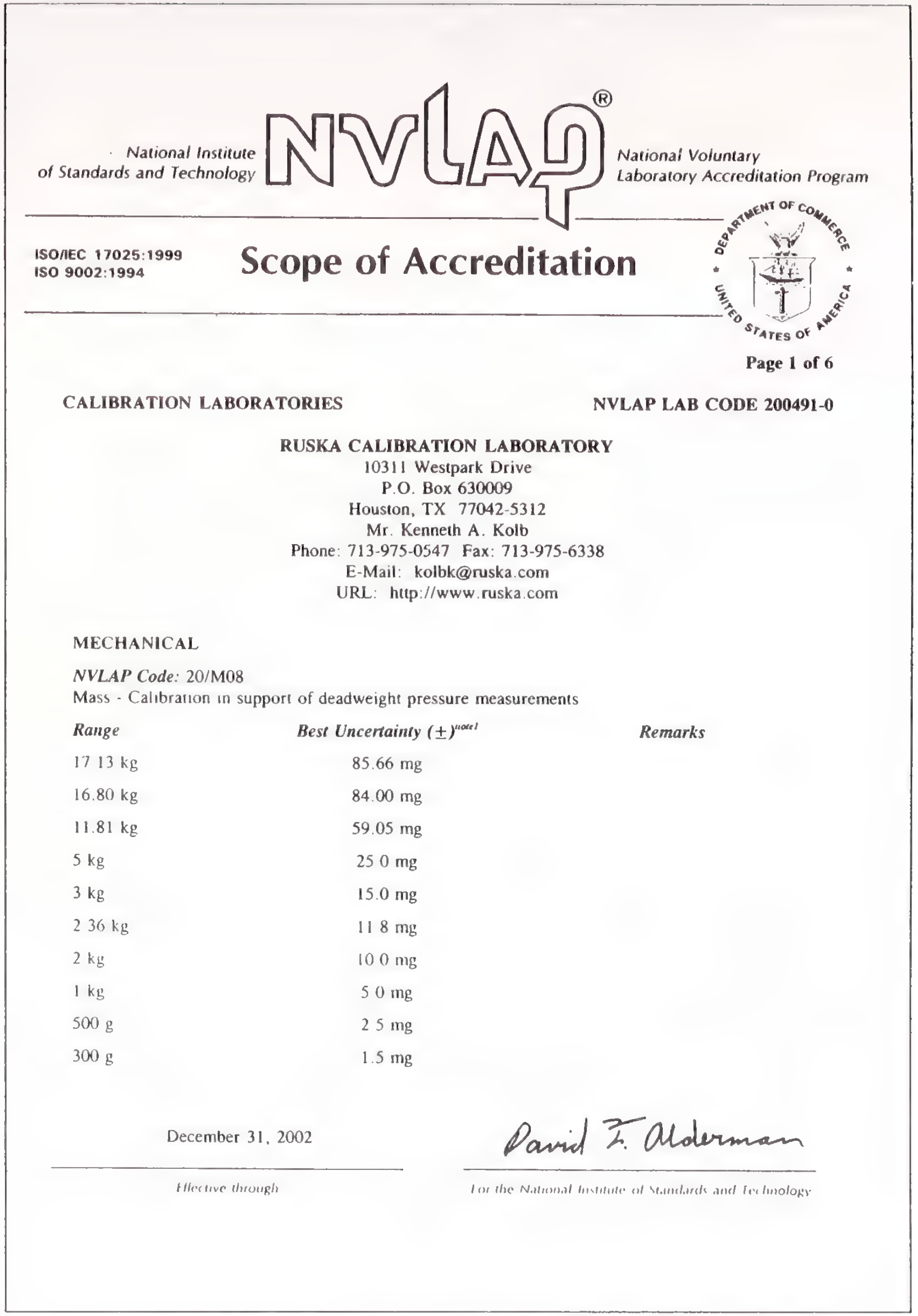

National Institute of Standards and Technology **NVLAP®** National Voluntary Laboratory Accreditation Program

ISO/IEC 17025:1999
ISO 9002:1994

Scope of Accreditation

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CALIBRATION LABORATORIES | **NVLAP LAB CODE 200491-0**

RUSKA CALIBRATION LABORATORY
10311 Westpark Drive
P.O. Box 630009
Houston, TX 77042-5312
Mr. Kenneth A. Kolb
Phone: 713-975-0547 Fax: 713-975-6338
E-Mail: kolbk@ruska.com
URL: http://www.ruska.com

MECHANICAL

NVLAP Code: 20/M08
Mass - Calibration in support of deadweight pressure measurements

Range	*Best Uncertainty (±)*[note1]	*Remarks*
17.13 kg	85.66 mg	
16.80 kg	84.00 mg	
11.81 kg	59.05 mg	
5 kg	25.0 mg	
3 kg	15.0 mg	
2.36 kg	11.8 mg	
2 kg	10.0 mg	
1 kg	5.0 mg	
500 g	2.5 mg	
300 g	1.5 mg	

December 31, 2002
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For the National Institute of Standards and Technology

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ISO/IEC 17025:1999
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RUSKA CALIBRATION LABORATORY

200 g	1.0 mg
100 g	0.5 mg
50 g	0.5 mg
30 g	0.5 mg
20 g	0.5 mg
10 g	0.5 mg
5 g	0.5 mg
3 g	0.5 mg
2 g	0.5 mg
1 g	0.5 mg
500 mg	0.5 mg
300 mg	0.5 mg
200 mg	0.5 mg
100 mg	0.5 mg
50 mg	0.5 mg
30 mg	0.5 mg
20 mg	0.5 mg
10 mg	0.5 mg

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RUSKA CALIBRATION LABORATORY

5 mg	0.5 mg
3 mg	0.5 mg
2 mg	0.5 mg
1 mg	0.5 mg

THERMODYNAMICS

NVLAP Code: 20/T05
Pressure

Pneumatic Pressure (Gauge Mode) Direct Pressure Comparison - Ultimate Capability

Range	*Best Uncertainty (±) of reading*^note 1^	*Remarks*
1.38 kPa to 345 kPa	7 x 10^{-6} but not less than 0.07 Pa	For Absolute Mode uncertainties increase by 0.133 Pa added in quadrature
11.72 kPa to 1400 kPa	7 x 10^{-6} but not less than 0.28 Pa	
14 kPa to 7 MPa	7.5 x 10^{-6} but not less than 2.8 Pa	
700 kPA to 21 MPa	8.5 x 10^{-6} + 1.7 x 10^{-7} per MPa	

Pneumatic Pressure (Differential Mode) - Ultimate Capability

-16 kPa to 16 kPa	1.10 x 10^{-5} + 0.034 Pa added in quadrature

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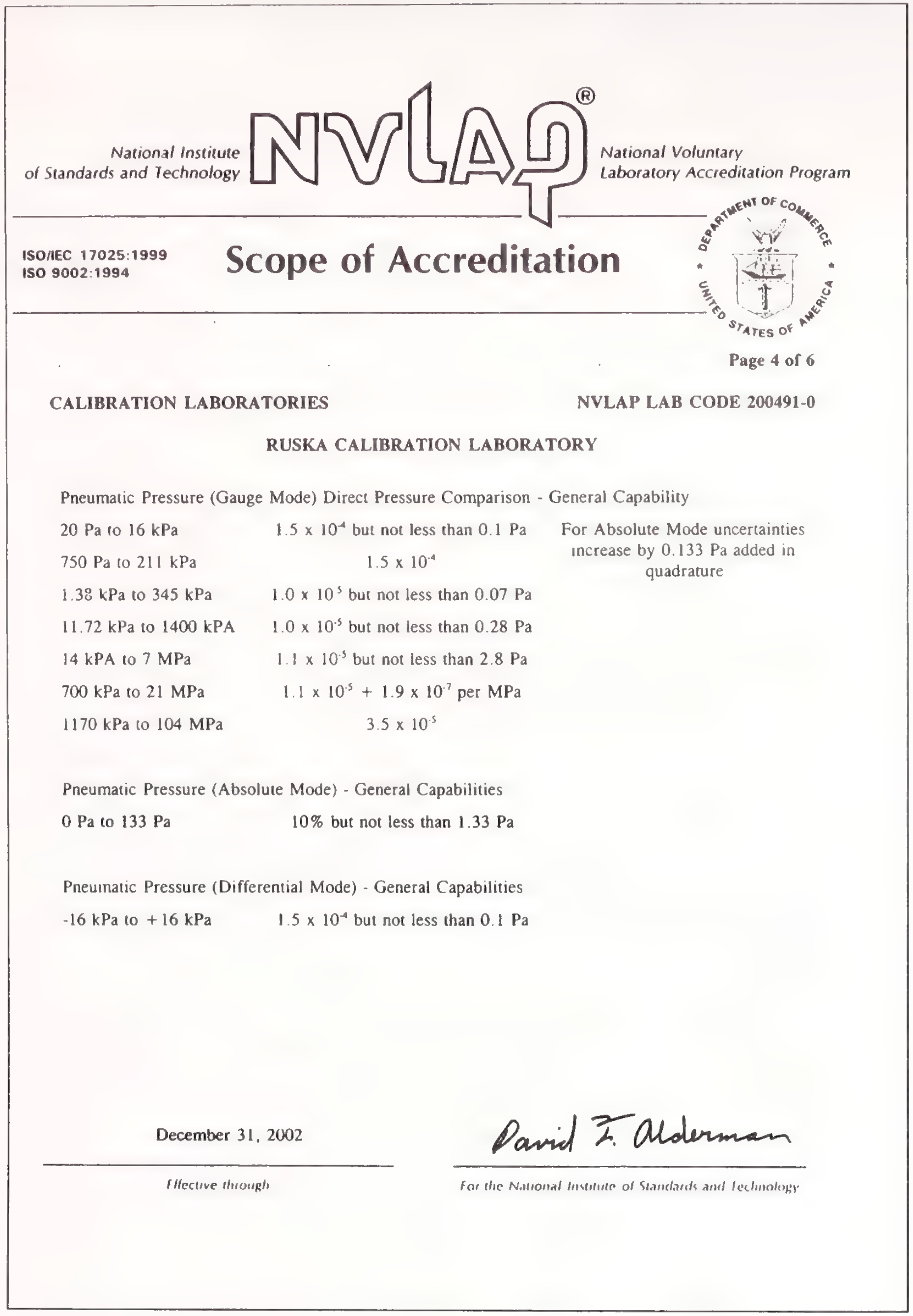

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RUSKA CALIBRATION LABORATORY

Pneumatic Pressure (Gauge Mode) Direct Pressure Comparison - General Capability

20 Pa to 16 kPa	1.5 x 10^{-4} but not less than 0.1 Pa	For Absolute Mode uncertainties increase by 0.133 Pa added in quadrature
750 Pa to 211 kPa	1.5 x 10^{-4}	
1.38 kPa to 345 kPa	1.0 x 10^{5} but not less than 0.07 Pa	
11.72 kPa to 1400 kPA	1.0 x 10^{-5} but not less than 0.28 Pa	
14 kPA to 7 MPa	1.1 x 10^{-5} but not less than 2.8 Pa	
700 kPa to 21 MPa	1.1 x 10^{-5} + 1.9 x 10^{-7} per MPa	
1170 kPa to 104 MPa	3.5 x 10^{-5}	

Pneumatic Pressure (Absolute Mode) - General Capabilities

0 Pa to 133 Pa	10% but not less than 1.33 Pa

Pneumatic Pressure (Differential Mode) - General Capabilities

-16 kPa to +16 kPa	1.5 x 10^{-4} but not less than 0.1 Pa

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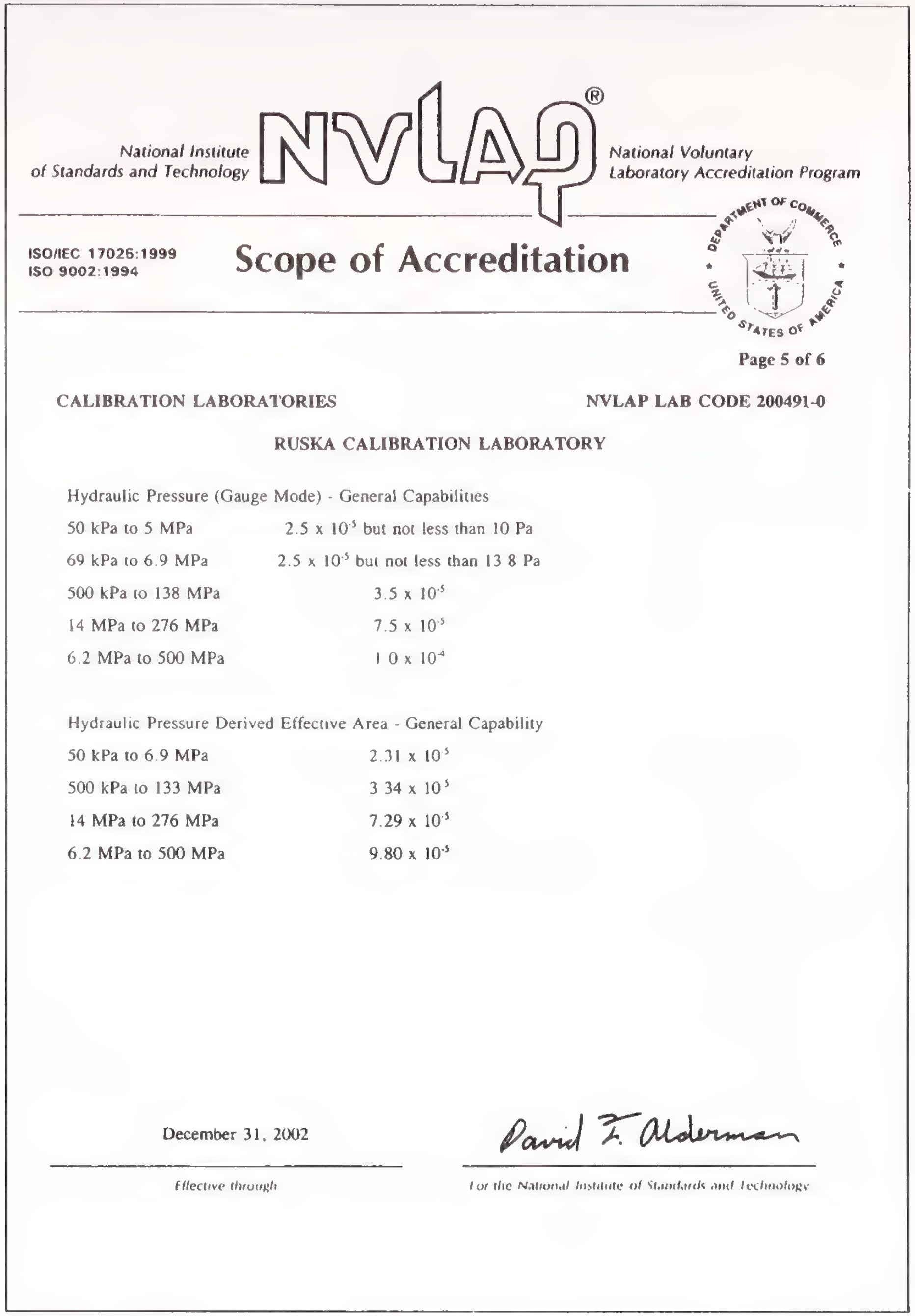

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RUSKA CALIBRATION LABORATORY

Hydraulic Pressure (Gauge Mode) - General Capabilities

50 kPa to 5 MPa	2.5 x 10^{-5} but not less than 10 Pa
69 kPa to 6.9 MPa	2.5 x 10^{-5} but not less than 13 8 Pa
500 kPa to 138 MPa	3.5 x 10^{-5}
14 MPa to 276 MPa	7.5 x 10^{-5}
6.2 MPa to 500 MPa	1 0 x 10^{-4}

Hydraulic Pressure Derived Effective Area - General Capability

50 kPa to 6.9 MPa	2.31 x 10^{-5}
500 kPa to 133 MPa	3 34 x 10^{-5}
14 MPa to 276 MPa	7.29 x 10^{-5}
6.2 MPa to 500 MPa	9.80 x 10^{-5}

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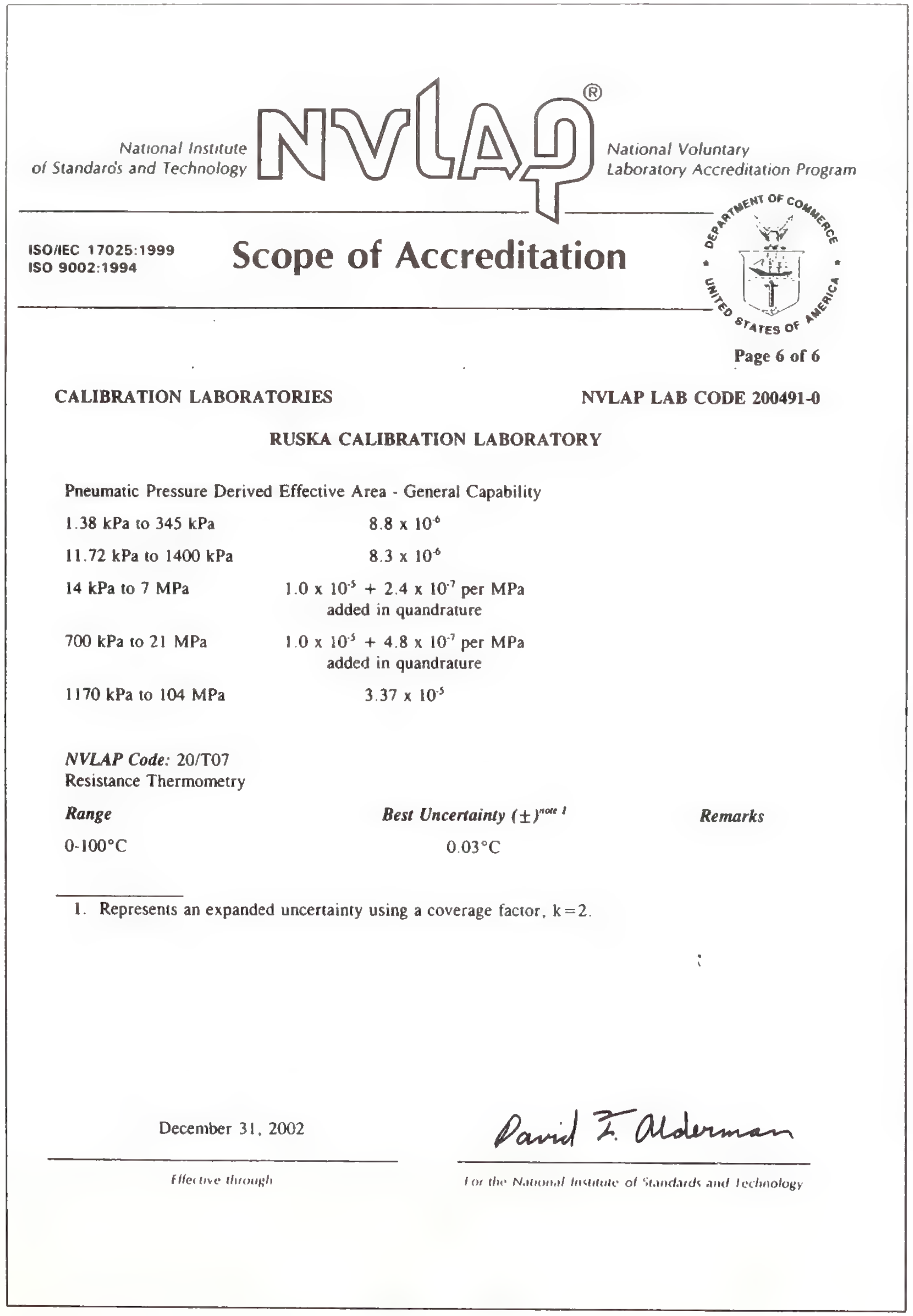

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RUSKA CALIBRATION LABORATORY

Pneumatic Pressure Derived Effective Area - General Capability

1.38 kPa to 345 kPa	8.8×10^{-6}
11.72 kPa to 1400 kPa	8.3×10^{-6}
14 kPa to 7 MPa	$1.0 \times 10^{-5} + 2.4 \times 10^{-7}$ per MPa added in quandrature
700 kPa to 21 MPa	$1.0 \times 10^{-5} + 4.8 \times 10^{-7}$ per MPa added in quandrature
1170 kPa to 104 MPa	3.37×10^{-5}

NVLAP Code: 20/T07
Resistance Thermometry

Range	*Best Uncertainty* (±)^{note 1}	*Remarks*
0-100°C	0.03°C	

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1. Represents an expanded uncertainty using a coverage factor, k=2.

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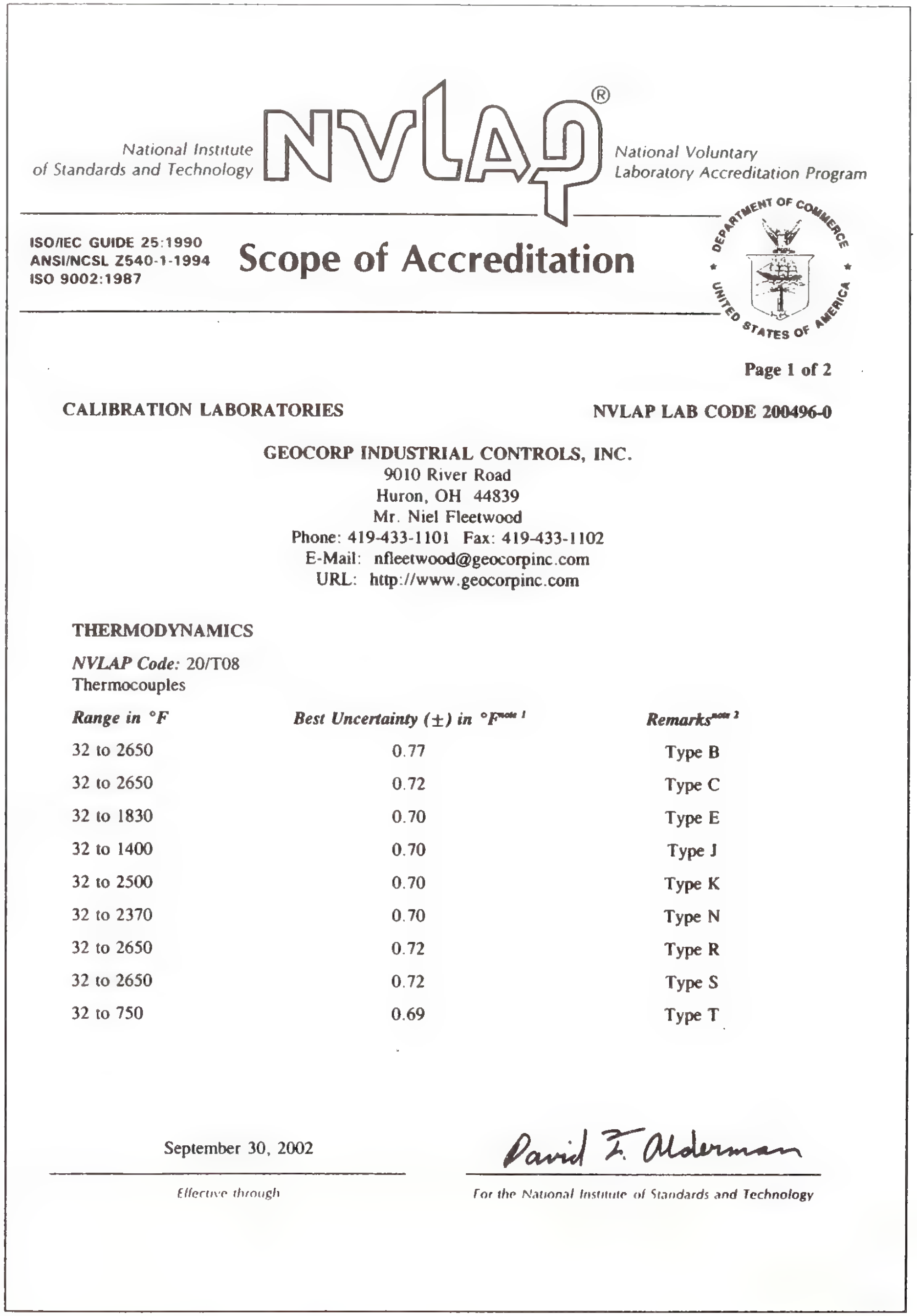

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CALIBRATION LABORATORIES **NVLAP LAB CODE 200496-0**

GEOCORP INDUSTRIAL CONTROLS, INC.
9010 River Road
Huron, OH 44839
Mr. Niel Fleetwood
Phone: 419-433-1101 Fax: 419-433-1102
E-Mail: nfleetwood@geocorpinc.com
URL: http://www.geocorpinc.com

THERMODYNAMICS

NVLAP Code: 20/T08
Thermocouples

Range in °F	*Best Uncertainty (±) in °F*[note 1]	*Remarks*[note 2]
32 to 2650	0.77	Type B
32 to 2650	0.72	Type C
32 to 1830	0.70	Type E
32 to 1400	0.70	Type J
32 to 2500	0.70	Type K
32 to 2370	0.70	Type N
32 to 2650	0.72	Type R
32 to 2650	0.72	Type S
32 to 750	0.69	Type T

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CALIBRATION LABORATORIES **NVLAP LAB CODE 200496-0**

GEOCORP INDUSTRIAL CONTROLS, INC.

Range in °C	*Best Uncertainty (±) in °C*[note 1]	*Remarks*
0 to 1454	0.43	Type B
0 to 1454	0.40	Type C
0 to 1000	0.39	Type E
0 to 760	0.39	Type J
0 to 1372	0.39	Type K
0 to 1300	0.39	Type N
0 to 1454	0.40	Type R
0 to 1451	0.40	Type S
0 to 400	0.38	Type T

---

1. Represents an expanded uncertainty using a coverage factor, k=2.
2. Thermocouple Types above are defined as per ANSI-MC 96.1 except for Type C. Type C is Tungsten 5% Rhenium vs. Tungsten 26% Rhenium.

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CALIBRATION LABORATORIES **NVLAP LAB CODE 200502-0**

PYROMATION INC. METROLOGY LABORATORY
5211 Industrial Road
Fort Wayne, IN 46825-5152
Mr. Chris Moritz
Phone: 219-484-2580 Fax: 219-482-6805
E-Mail: chris@pyromation.com
URL: http://www.pyromation.com

DC/LOW FREQUENCY

NVLAP Code: 20/E05
DC Resistance

Range in ohms	*Best Uncertainty (±) in ohms*[note 1]	*Remarks*
1	0.006	Simulated
10	0.007	Simulated
100	0.018	Simulated
1 k	0.122	Simulated
10 k	4	Simulated
100 k	35	Simulated
1 M	347	Simulated
10 M	4 k	Simulated
100 M	35 k	Simulated

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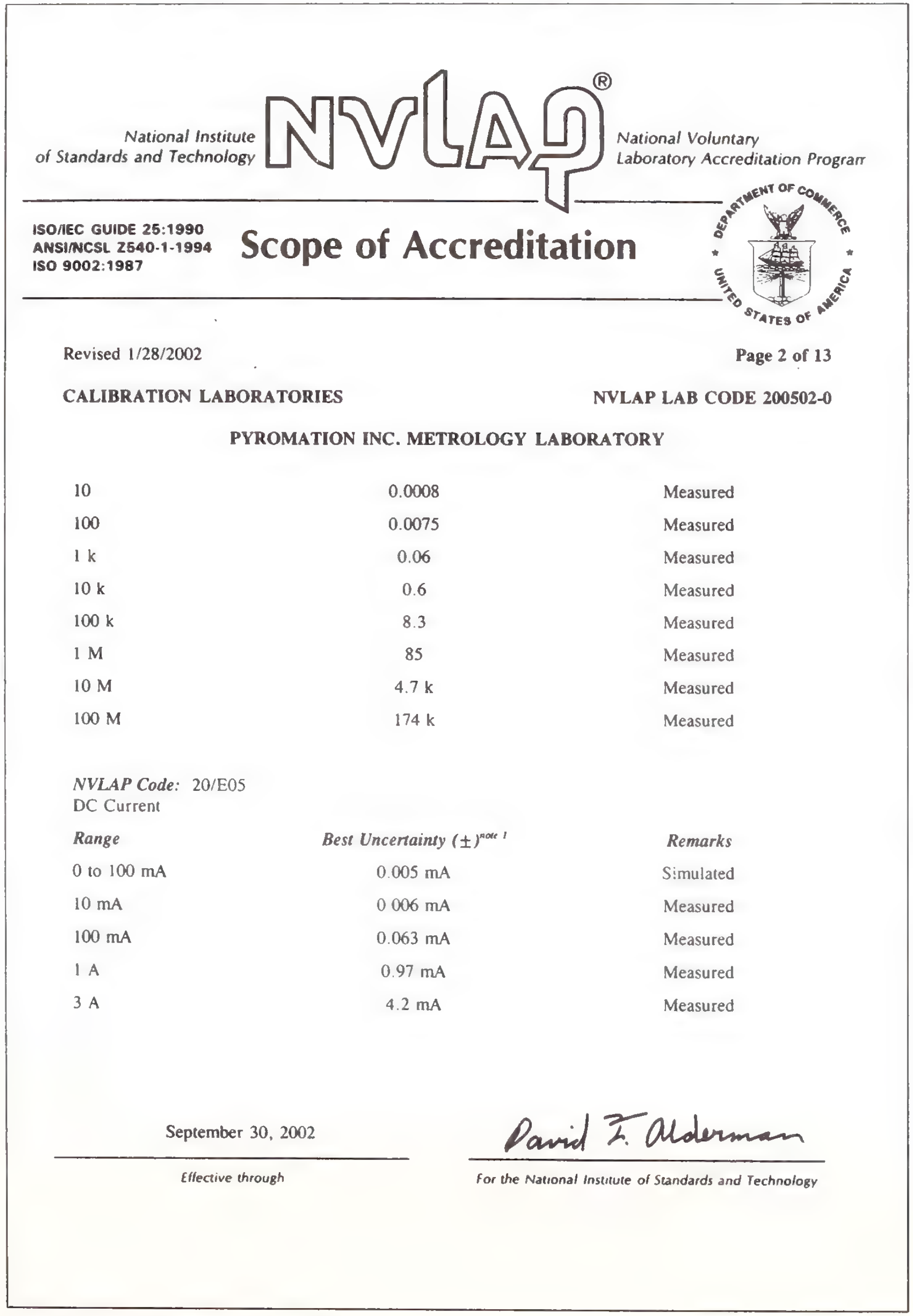

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PYROMATION INC. METROLOGY LABORATORY

10	0.0008	Measured
100	0.0075	Measured
1 k	0.06	Measured
10 k	0.6	Measured
100 k	8.3	Measured
1 M	85	Measured
10 M	4.7 k	Measured
100 M	174 k	Measured

NVLAP Code: 20/E05
DC Current

Range	*Best Uncertainty* (±)$^{note\ 1}$	*Remarks*
0 to 100 mA	0.005 mA	Simulated
10 mA	0.006 mA	Measured
100 mA	0.063 mA	Measured
1 A	0.97 mA	Measured
3 A	4.2 mA	Measured

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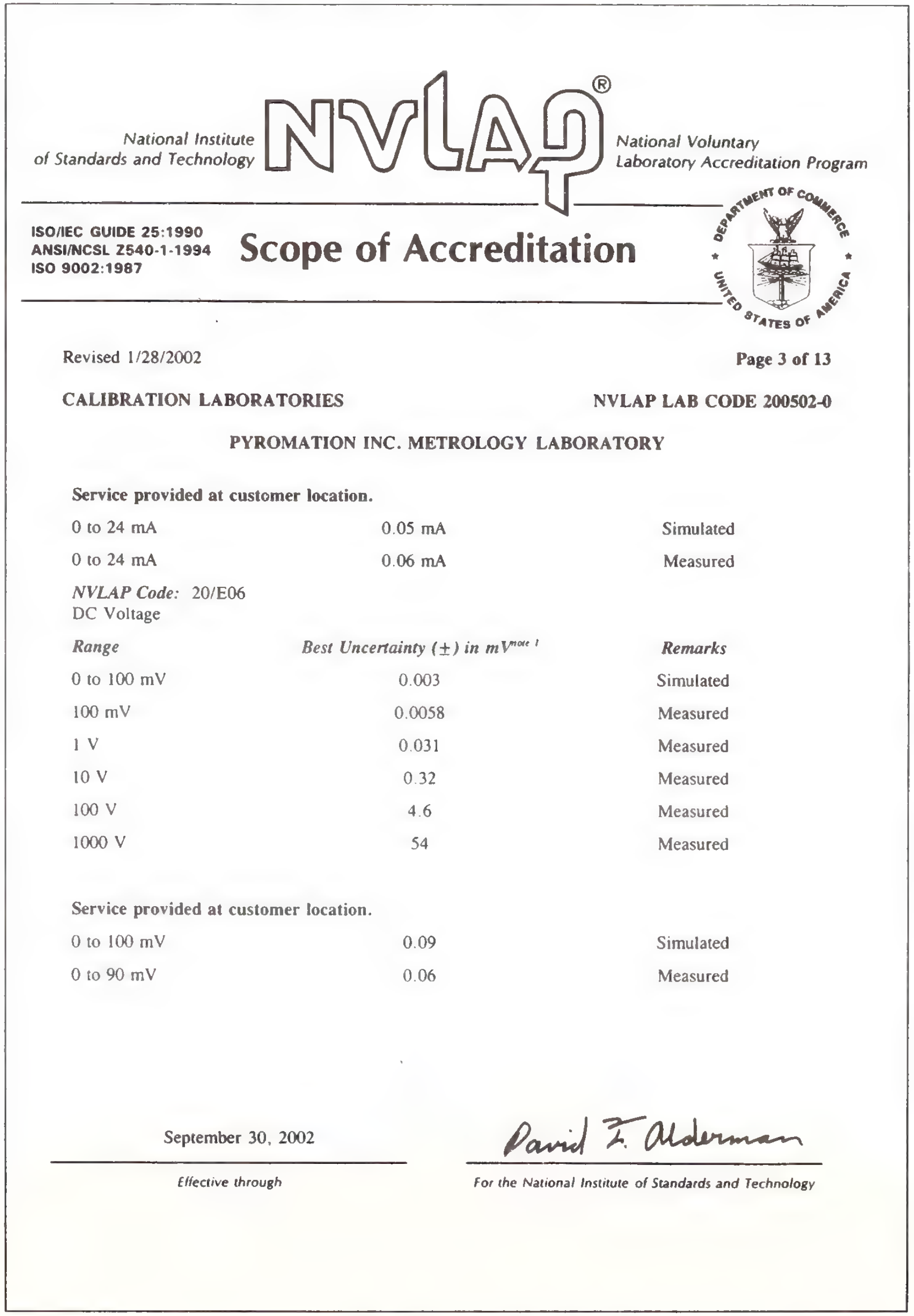

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CALIBRATION LABORATORIES — NVLAP LAB CODE 200502-0

PYROMATION INC. METROLOGY LABORATORY

Service provided at customer location.

0 to 24 mA	0.05 mA	Simulated
0 to 24 mA	0.06 mA	Measured

NVLAP Code: 20/E06
DC Voltage

Range	*Best Uncertainty* (±) *in mV*$^{note\ 1}$	*Remarks*
0 to 100 mV	0.003	Simulated
100 mV	0.0058	Measured
1 V	0.031	Measured
10 V	0.32	Measured
100 V	4.6	Measured
1000 V	54	Measured

Service provided at customer location.

0 to 100 mV	0.09	Simulated
0 to 90 mV	0.06	Measured

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CALIBRATION LABORATORIES **NVLAP LAB CODE 200502-0**

PYROMATION INC. METROLOGY LABORATORY

THERMODYNAMICS

NVLAP Code: 20/T07
Resistance Thermometry

Range in °C	*Best Uncertainty (±)*^note 1^	*Min. Immersion*	*Remarks*
-196	0.03°C	12 in	Comparison Measurement against PRT
-75	0.03°C	12 in	Comparison Measurement against PRT
-40 to 230	0.04°C	6 in	Comparison Measurement against PRT
230 to 420	0.04°C	18 in	Comparison Measurement against PRT
420 to 660	0.45°C	18 in	Comparison Measurement against S Thermocouple
-196	0.013°C	12 in	Comparison Measurement against SPRT
-75	0.014°C	12 in	Comparison Measurement against SPRT
-40 to 230	0.026°C	6 in	Comparison Measurement against SPRT

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PYROMATION INC. METROLOGY LABORATORY

230 to 420	0.026°C	18 in	Comparison Measurement against SPRT
0.01	2.8 mk	18 in	Fixed Point (TPW)
29.7646	3.5 mk	12 in	Fixed Point (MPGa)

NVLAP Code: 20/T07
Resistance Thermometry/Digital/Analog Temperature Indicators

Range in °C	*Best Uncertainty (±) in °C*^note 1^	*Type*	*Remarks*
-270 to 1000	0.06	E	Simulated
-210 to 1200	0.07	J	Simulated
-270 to 1372	0.08	K	Simulated
-270 to 1300	0.12	N	Simulated
-270 to 400	0.08	T	Simulated
0 to 1820	0.28	B	Simulated
-50 to 1768	0.46	R	Simulated
-50 to 1768	0.43	S	Simulated
-270 to 1000	0.04	E	Measured
-210 to 1200	0.05	J	Measured

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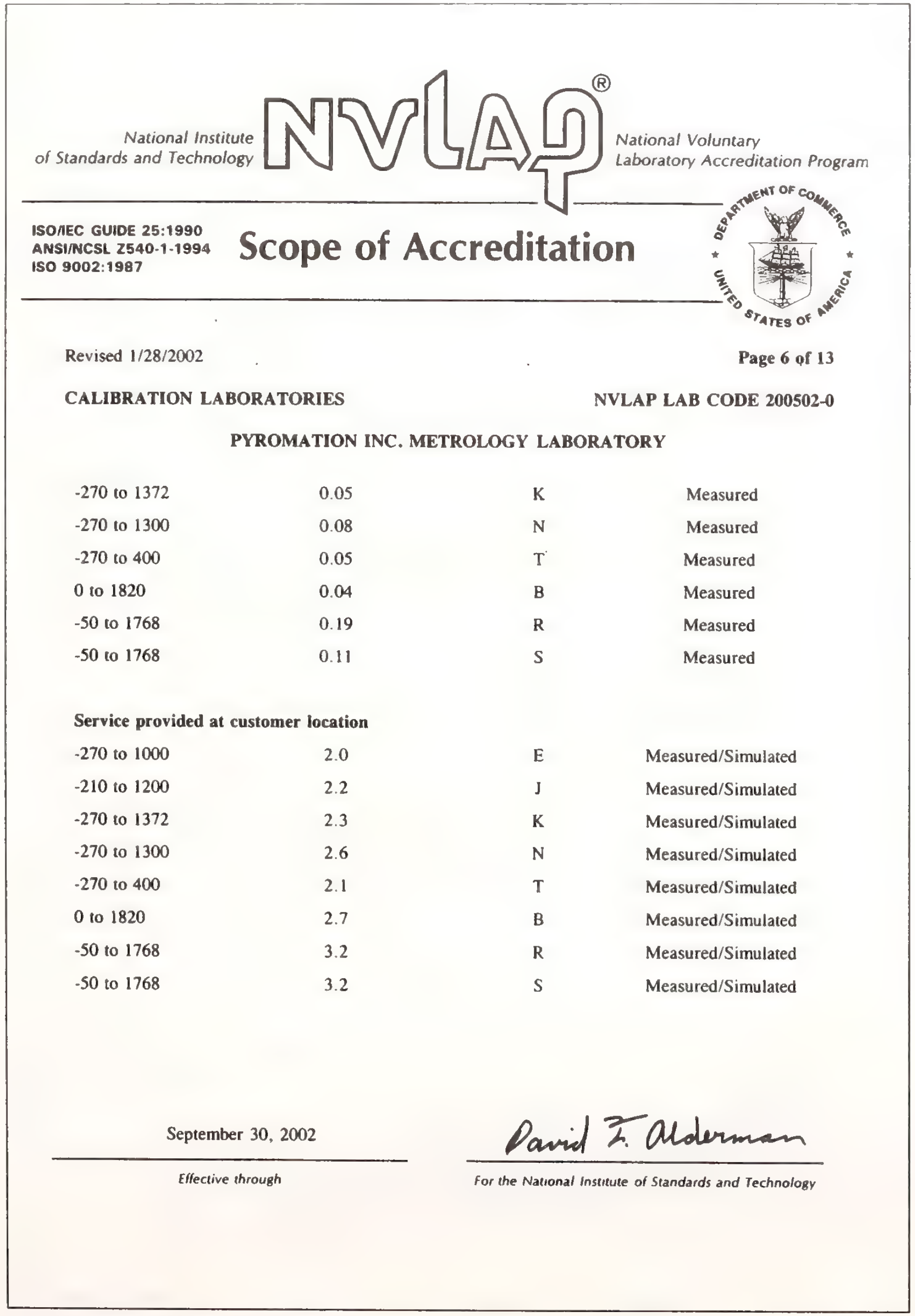

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PYROMATION INC. METROLOGY LABORATORY

-270 to 1372	0.05	K	Measured
-270 to 1300	0.08	N	Measured
-270 to 400	0.05	T	Measured
0 to 1820	0.04	B	Measured
-50 to 1768	0.19	R	Measured
-50 to 1768	0.11	S	Measured
Service provided at customer location			
-270 to 1000	2.0	E	Measured/Simulated
-210 to 1200	2.2	J	Measured/Simulated
-270 to 1372	2.3	K	Measured/Simulated
-270 to 1300	2.6	N	Measured/Simulated
-270 to 400	2.1	T	Measured/Simulated
0 to 1820	2.7	B	Measured/Simulated
-50 to 1768	3.2	R	Measured/Simulated
-50 to 1768	3.2	S	Measured/Simulated

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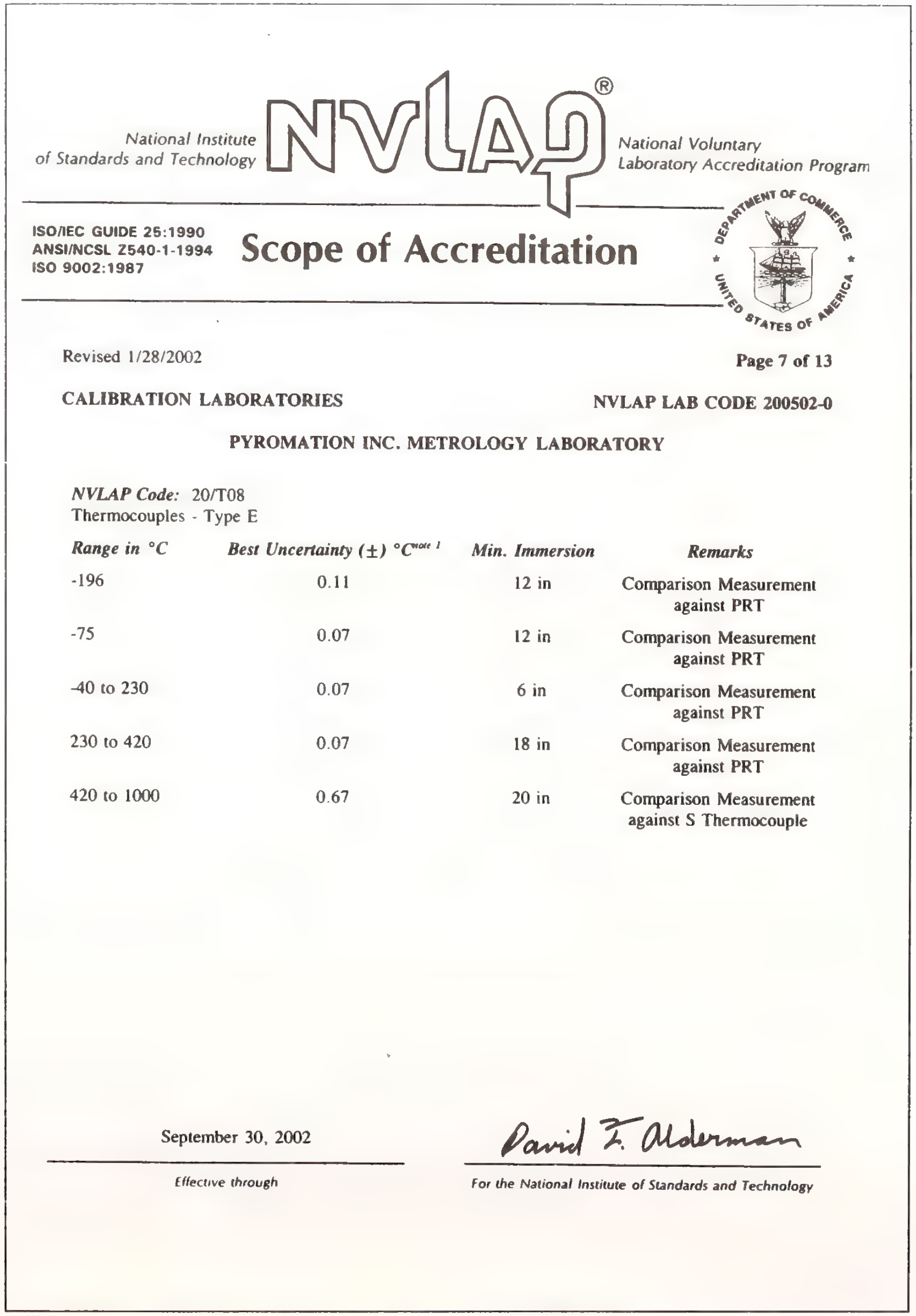

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PYROMATION INC. METROLOGY LABORATORY

NVLAP Code: 20/T08
Thermocouples - Type E

Range in °C	*Best Uncertainty (±) °C*$^{\text{note 1}}$	*Min. Immersion*	*Remarks*
-196	0.11	12 in	Comparison Measurement against PRT
-75	0.07	12 in	Comparison Measurement against PRT
-40 to 230	0.07	6 in	Comparison Measurement against PRT
230 to 420	0.07	18 in	Comparison Measurement against PRT
420 to 1000	0.67	20 in	Comparison Measurement against S Thermocouple

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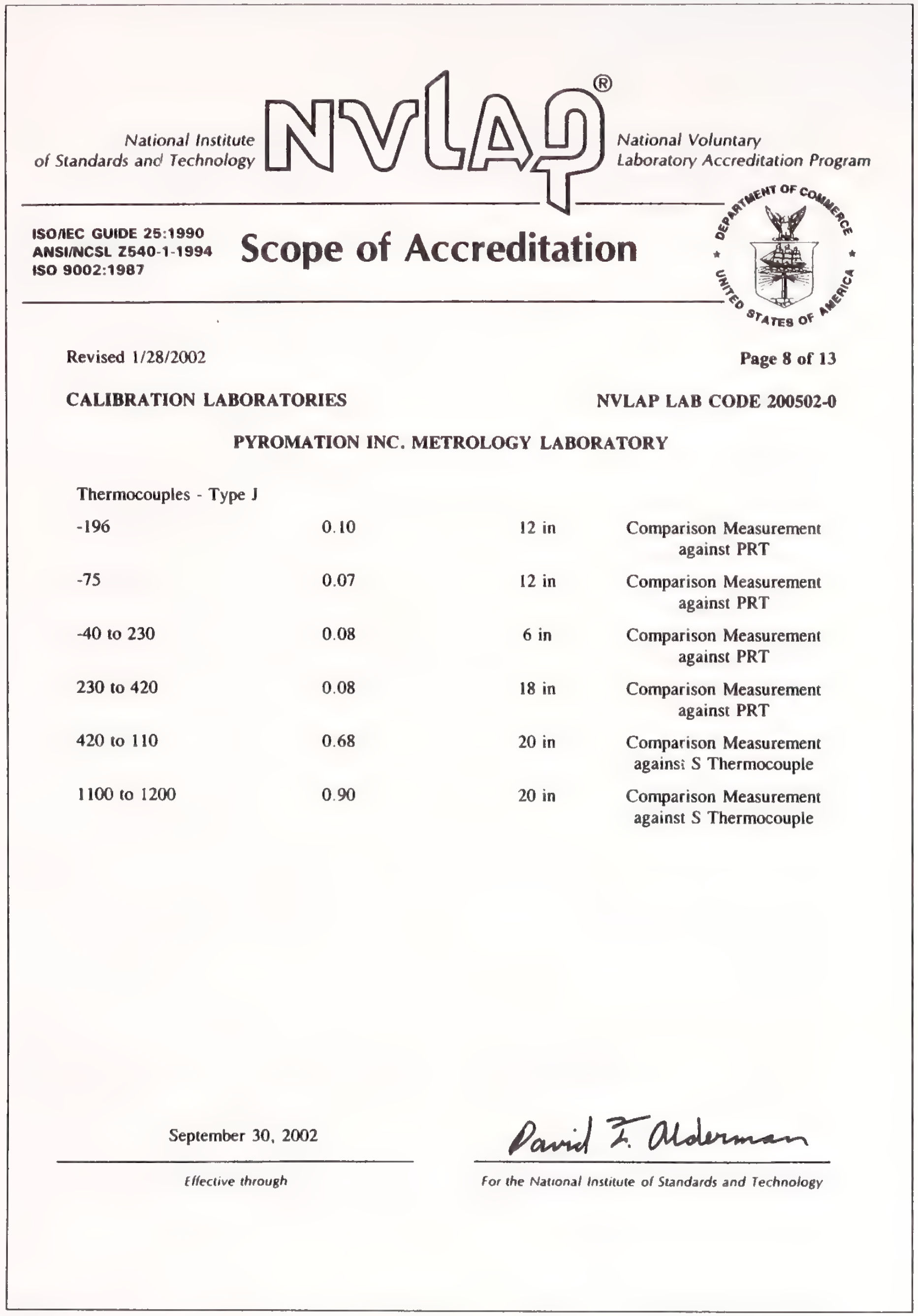

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PYROMATION INC. METROLOGY LABORATORY

Thermocouples - Type J

-196	0.10	12 in	Comparison Measurement against PRT
-75	0.07	12 in	Comparison Measurement against PRT
-40 to 230	0.08	6 in	Comparison Measurement against PRT
230 to 420	0.08	18 in	Comparison Measurement against PRT
420 to 110	0.68	20 in	Comparison Measurement against S Thermocouple
1100 to 1200	0.90	20 in	Comparison Measurement against S Thermocouple

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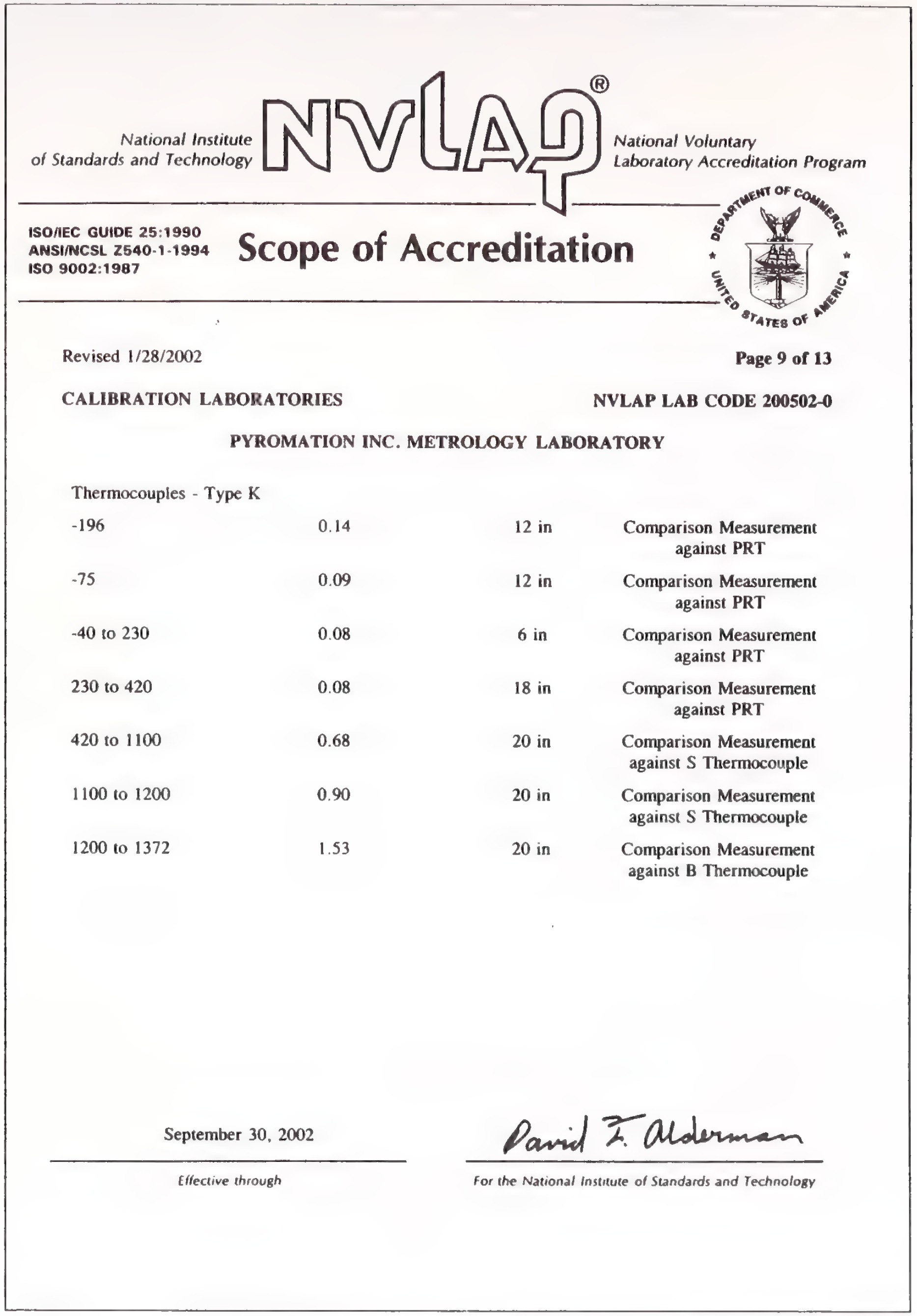

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PYROMATION INC. METROLOGY LABORATORY

Thermocouples - Type K

-196	0.14	12 in	Comparison Measurement against PRT
-75	0.09	12 in	Comparison Measurement against PRT
-40 to 230	0.08	6 in	Comparison Measurement against PRT
230 to 420	0.08	18 in	Comparison Measurement against PRT
420 to 1100	0.68	20 in	Comparison Measurement against S Thermocouple
1100 to 1200	0.90	20 in	Comparison Measurement against S Thermocouple
1200 to 1372	1.53	20 in	Comparison Measurement against B Thermocouple

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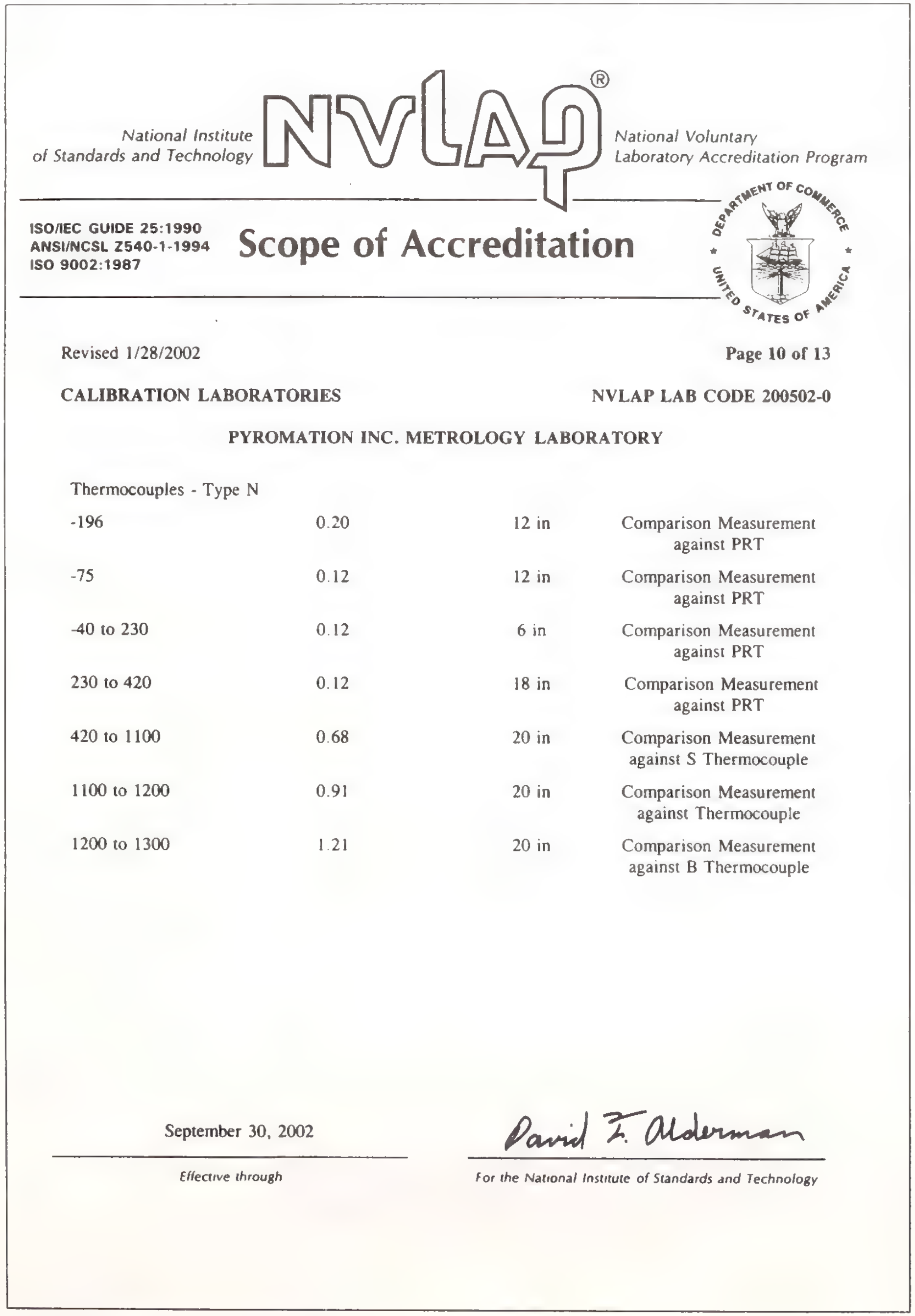

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PYROMATION INC. METROLOGY LABORATORY

Thermocouples - Type N

-196	0.20	12 in	Comparison Measurement against PRT
-75	0.12	12 in	Comparison Measurement against PRT
-40 to 230	0.12	6 in	Comparison Measurement against PRT
230 to 420	0.12	18 in	Comparison Measurement against PRT
420 to 1100	0.68	20 in	Comparison Measurement against S Thermocouple
1100 to 1200	0.91	20 in	Comparison Measurement against Thermocouple
1200 to 1300	1.21	20 in	Comparison Measurement against B Thermocouple

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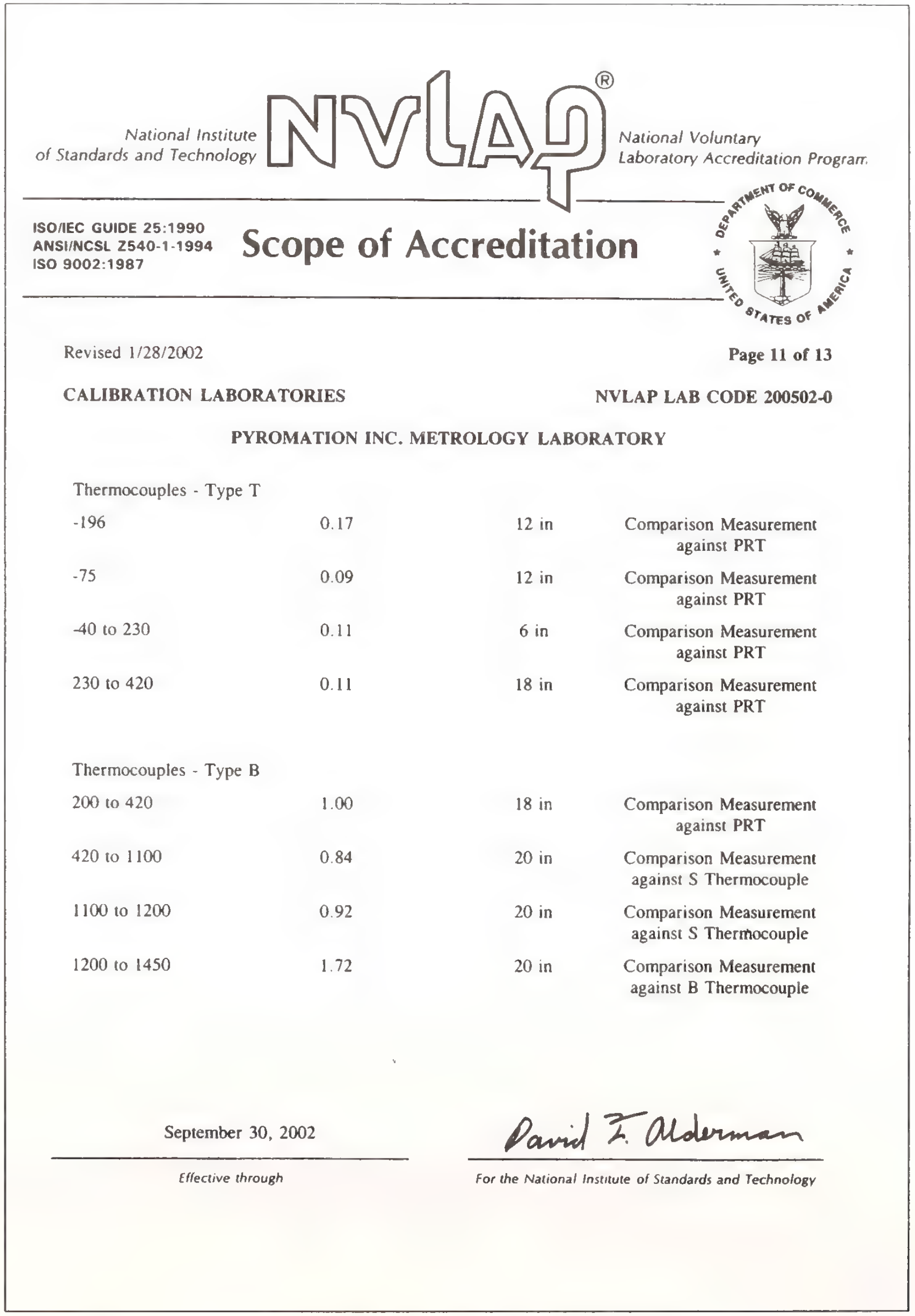

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PYROMATION INC. METROLOGY LABORATORY

Thermocouples - Type T

-196	0.17	12 in	Comparison Measurement against PRT
-75	0.09	12 in	Comparison Measurement against PRT
-40 to 230	0.11	6 in	Comparison Measurement against PRT
230 to 420	0.11	18 in	Comparison Measurement against PRT

Thermocouples - Type B

200 to 420	1.00	18 in	Comparison Measurement against PRT
420 to 1100	0.84	20 in	Comparison Measurement against S Thermocouple
1100 to 1200	0.92	20 in	Comparison Measurement against S Thermocouple
1200 to 1450	1.72	20 in	Comparison Measurement against B Thermocouple

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CALIBRATION LABORATORIES **NVLAP LAB CODE 200502-0**

PYROMATION INC. METROLOGY LABORATORY

Thermocouples - Type R

-40 to 230	0.44	6 in	Comparison Measurement against PRT
230 to 420	0.44	18 in	Comparison Measurement against PRT
420 to 1100	0.71	20 in	Comparison Measurement against S Thermocouple
1100 to 1200	0.93	20 in	Comparison Measurement against S Thermocouple
1200 to 1450	1.73	30 in	Comparison Measurement against B Thermocouple

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CALIBRATION LABORATORIES **NVLAP LAB CODE 200502-0**

PYROMATION INC. METROLOGY LABORATORY

Thermocouples - Type S

-40 to 230	0.42	6 in	Comparison Measurement against PRT
230 to 420	0.42	18 in	Comparison Measurement against PRT
420 to 1100	0.71	20 in	Comparison Measurement against S Thermocouple
1100 to 1200	0.93	20 in	Comparison Measurement against S Thermocouple
1200 to 1450	1.72	30 in	Comparison Measurement against B Thermocouple

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1. Represents an expanded uncertainty using a coverage factor, k=2.

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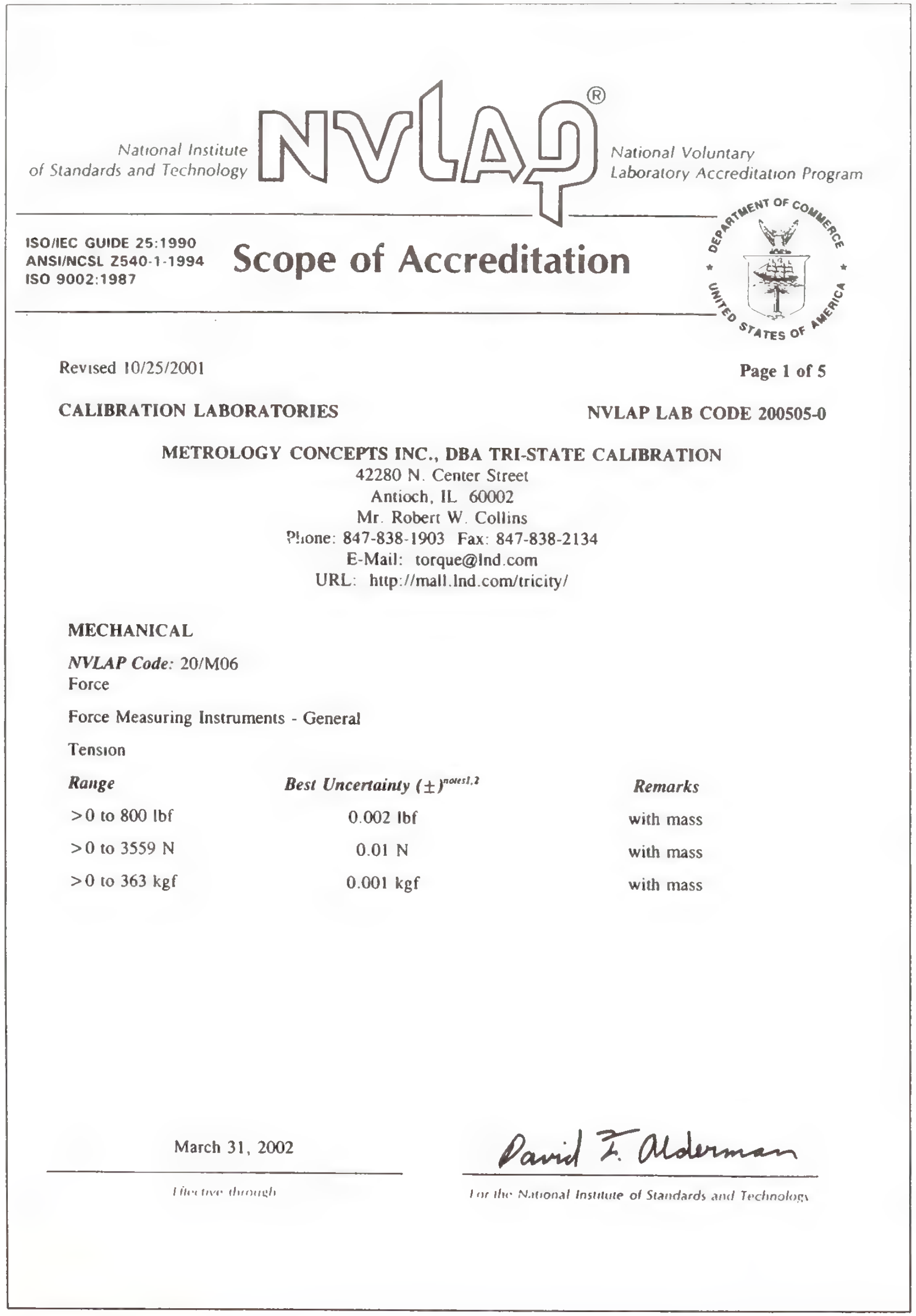

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CALIBRATION LABORATORIES **NVLAP LAB CODE 200505-0**

METROLOGY CONCEPTS INC., DBA TRI-STATE CALIBRATION
42280 N. Center Street
Antioch, IL 60002
Mr. Robert W. Collins
Phone: 847-838-1903 Fax: 847-838-2134
E-Mail: torque@lnd.com
URL: http://mall.lnd.com/tricity/

MECHANICAL

NVLAP Code: 20/M06
Force

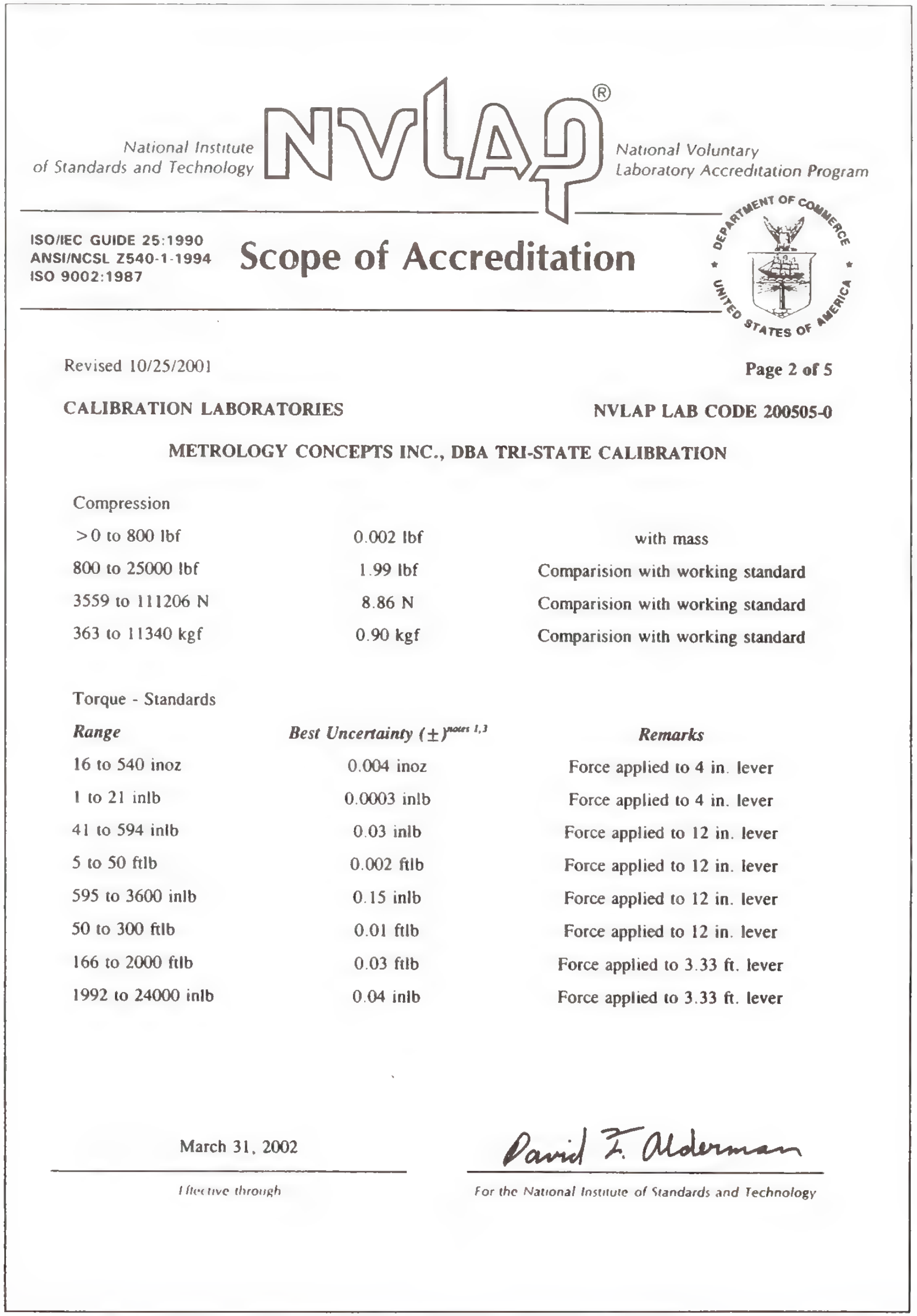
Force Measuring Instruments - General

Tension

Range	*Best Uncertainty* $(\pm)^{notes 1,2}$	*Remarks*
>0 to 800 lbf	0.002 lbf	with mass
>0 to 3559 N	0.01 N	with mass
>0 to 363 kgf	0.001 kgf	with mass

March 31, 2002
Effective through

David F. Alderman
For the National Institute of Standards and Technology



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ISO/IEC GUIDE 25:1990
ANSI/NCSL Z540-1-1994
ISO 9002:1987

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CALIBRATION LABORATORIES **NVLAP LAB CODE 200505-0**

METROLOGY CONCEPTS INC., DBA TRI-STATE CALIBRATION

Compression

>0 to 800 lbf	0.002 lbf	with mass
800 to 25000 lbf	1.99 lbf	Comparision with working standard
3559 to 111206 N	8.86 N	Comparision with working standard
363 to 11340 kgf	0.90 kgf	Comparision with working standard

Torque - Standards

Range	*Best Uncertainty* $(\pm)^{notes 1,3}$	*Remarks*
16 to 540 inoz	0.004 inoz	Force applied to 4 in. lever
1 to 21 inlb	0.0003 inlb	Force applied to 4 in. lever
41 to 594 inlb	0.03 inlb	Force applied to 12 in. lever
5 to 50 ftlb	0.002 ftlb	Force applied to 12 in. lever
595 to 3600 inlb	0.15 inlb	Force applied to 12 in. lever
50 to 300 ftlb	0.01 ftlb	Force applied to 12 in. lever
166 to 2000 ftlb	0.03 ftlb	Force applied to 3.33 ft. lever
1992 to 24000 inlb	0.04 inlb	Force applied to 3.33 ft. lever

March 31, 2002
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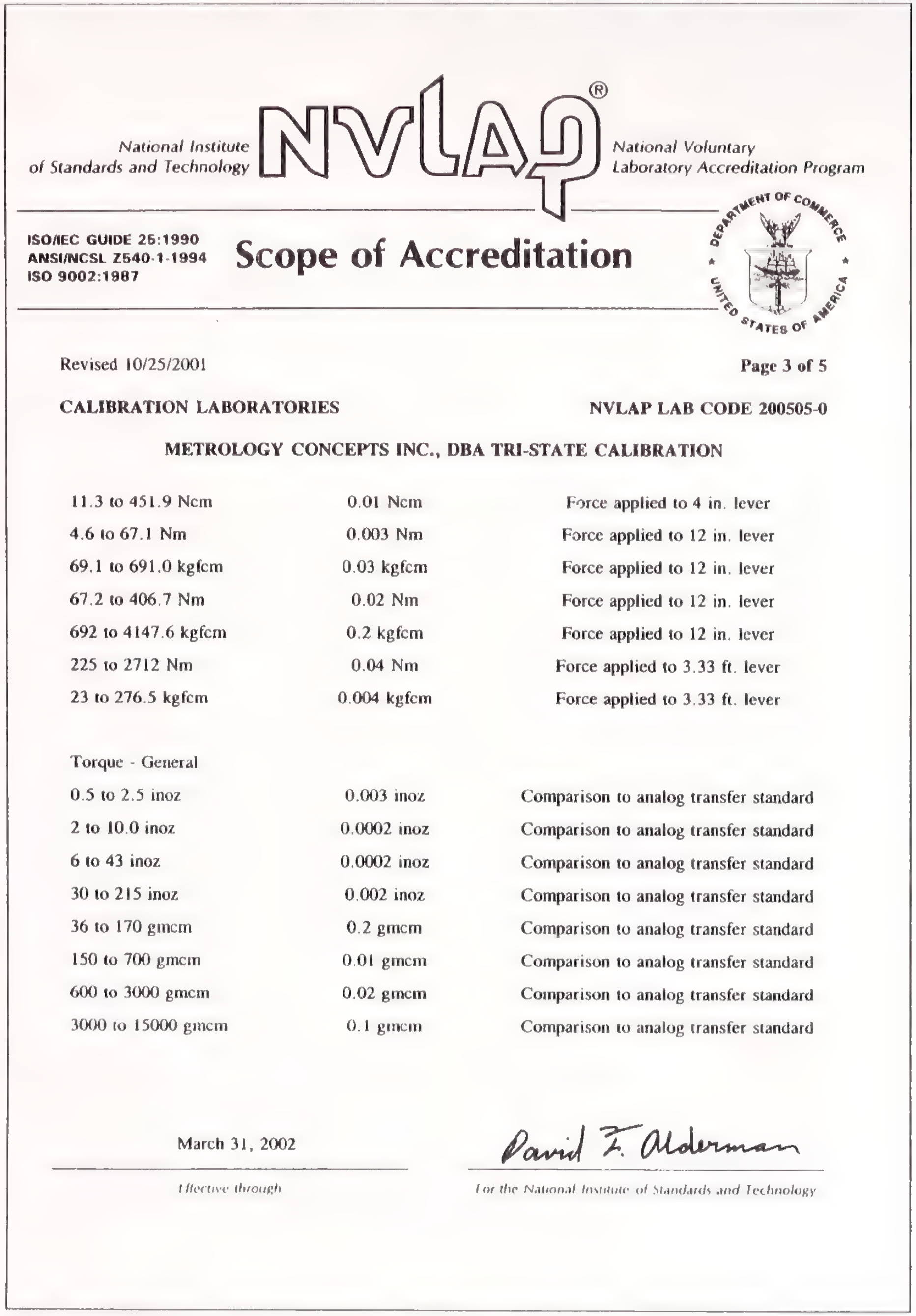

National Institute of Standards and Technology

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National Voluntary Laboratory Accreditation Program

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CALIBRATION LABORATORIES

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METROLOGY CONCEPTS INC., DBA TRI-STATE CALIBRATION

11.3 to 451.9 Ncm	0.01 Ncm	Force applied to 4 in. lever
4.6 to 67.1 Nm	0.003 Nm	Force applied to 12 in. lever
69.1 to 691.0 kgfcm	0.03 kgfcm	Force applied to 12 in. lever
67.2 to 406.7 Nm	0.02 Nm	Force applied to 12 in. lever
692 to 4147.6 kgfcm	0.2 kgfcm	Force applied to 12 in. lever
225 to 2712 Nm	0.04 Nm	Force applied to 3.33 ft. lever
23 to 276.5 kgfcm	0.004 kgfcm	Force applied to 3.33 ft. lever
Torque - General		
0.5 to 2.5 inoz	0.003 inoz	Comparison to analog transfer standard
2 to 10.0 inoz	0.0002 inoz	Comparison to analog transfer standard
6 to 43 inoz	0.0002 inoz	Comparison to analog transfer standard
30 to 215 inoz	0.002 inoz	Comparison to analog transfer standard
36 to 170 gmcm	0.2 gmcm	Comparison to analog transfer standard
150 to 700 gmcm	0.01 gmcm	Comparison to analog transfer standard
600 to 3000 gmcm	0.02 gmcm	Comparison to analog transfer standard
3000 to 15000 gmcm	0.1 gmcm	Comparison to analog transfer standard

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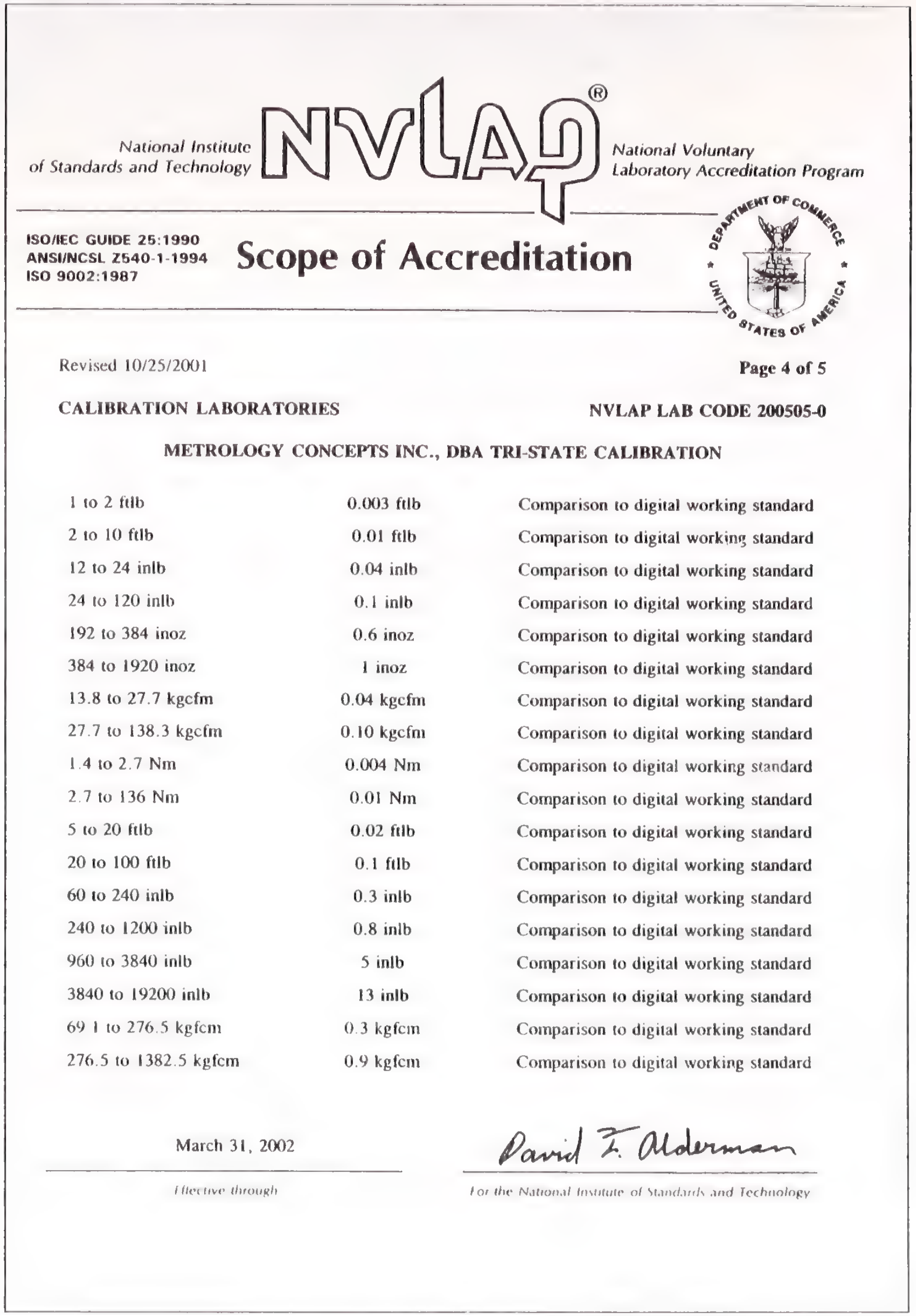
For the National Institute of Standards and Technology



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METROLOGY CONCEPTS INC., DBA TRI-STATE CALIBRATION

1 to 2 ftlb	0.003 ftlb	Comparison to digital working standard
2 to 10 ftlb	0.01 ftlb	Comparison to digital working standard
12 to 24 inlb	0.04 inlb	Comparison to digital working standard
24 to 120 inlb	0.1 inlb	Comparison to digital working standard
192 to 384 inoz	0.6 inoz	Comparison to digital working standard
384 to 1920 inoz	1 inoz	Comparison to digital working standard
13.8 to 27.7 kgcfm	0.04 kgcfm	Comparison to digital working standard
27.7 to 138.3 kgcfm	0.10 kgcfm	Comparison to digital working standard
1.4 to 2.7 Nm	0.004 Nm	Comparison to digital working standard
2.7 to 136 Nm	0.01 Nm	Comparison to digital working standard
5 to 20 ftlb	0.02 ftlb	Comparison to digital working standard
20 to 100 ftlb	0.1 ftlb	Comparison to digital working standard
60 to 240 inlb	0.3 inlb	Comparison to digital working standard
240 to 1200 inlb	0.8 inlb	Comparison to digital working standard
960 to 3840 inlb	5 inlb	Comparison to digital working standard
3840 to 19200 inlb	13 inlb	Comparison to digital working standard
69 1 to 276.5 kgfcm	0.3 kgfcm	Comparison to digital working standard
276.5 to 1382.5 kgfcm	0.9 kgfcm	Comparison to digital working standard

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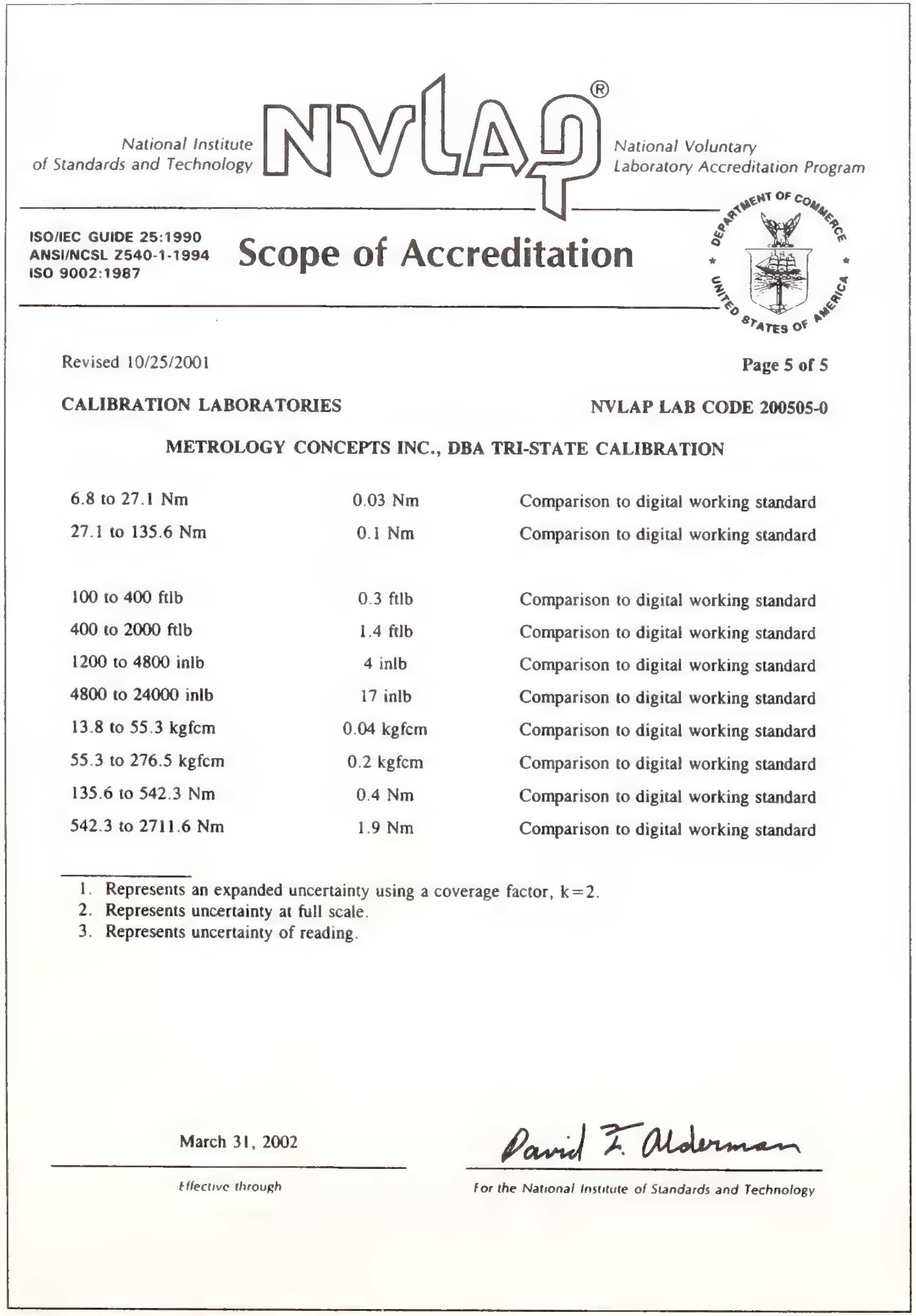

National Institute of Standards and Technology NVLAP® National Voluntary Laboratory Accreditation Program

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CALIBRATION LABORATORIES **NVLAP LAB CODE 200505-0**

METROLOGY CONCEPTS INC., DBA TRI-STATE CALIBRATION

6.8 to 27.1 Nm	0.03 Nm	Comparison to digital working standard
27.1 to 135.6 Nm	0.1 Nm	Comparison to digital working standard
100 to 400 ftlb	0.3 ftlb	Comparison to digital working standard
400 to 2000 ftlb	1.4 ftlb	Comparison to digital working standard
1200 to 4800 inlb	4 inlb	Comparison to digital working standard
4800 to 24000 inlb	17 inlb	Comparison to digital working standard
13.8 to 55.3 kgfcm	0.04 kgfcm	Comparison to digital working standard
55.3 to 276.5 kgfcm	0.2 kgfcm	Comparison to digital working standard
135.6 to 542.3 Nm	0.4 Nm	Comparison to digital working standard
542.3 to 2711.6 Nm	1.9 Nm	Comparison to digital working standard

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1. Represents an expanded uncertainty using a coverage factor, k=2.
2. Represents uncertainty at full scale.
3. Represents uncertainty of reading.

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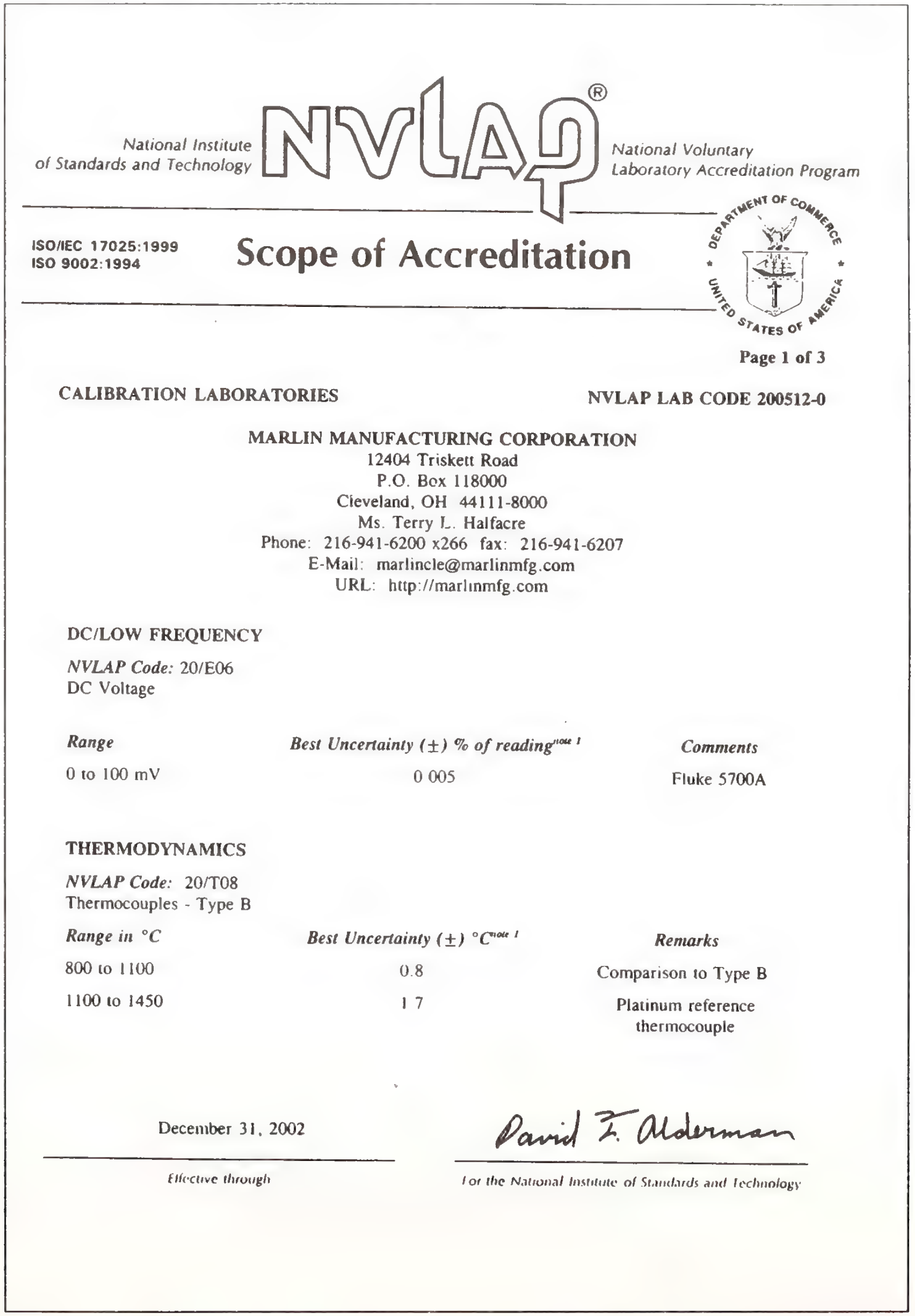
For the National Institute of Standards and Technology



National Institute of Standards and Technology NVLAP® National Voluntary Laboratory Accreditation Program

ISO/IEC 17025:1999
ISO 9002:1994

Scope of Accreditation

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CALIBRATION LABORATORIES **NVLAP LAB CODE 200512-0**

MARLIN MANUFACTURING CORPORATION
12404 Triskett Road
P.O. Box 118000
Cleveland, OH 44111-8000
Ms. Terry L. Halfacre
Phone: 216-941-6200 x266 fax: 216-941-6207
E-Mail: marlincle@marlinmfg.com
URL: http://marlinmfg.com

DC/LOW FREQUENCY

NVLAP Code: 20/E06
DC Voltage

Range	*Best Uncertainty (±) % of reading*$^{\text{note 1}}$	*Comments*
0 to 100 mV	0.005	Fluke 5700A

THERMODYNAMICS

NVLAP Code: 20/T08
Thermocouples - Type B

Range in °C	*Best Uncertainty (±) °C*$^{\text{note 1}}$	*Remarks*
800 to 1100	0.8	Comparison to Type B
1100 to 1450	1.7	Platinum reference thermocouple

December 31, 2002
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For the National Institute of Standards and Technology

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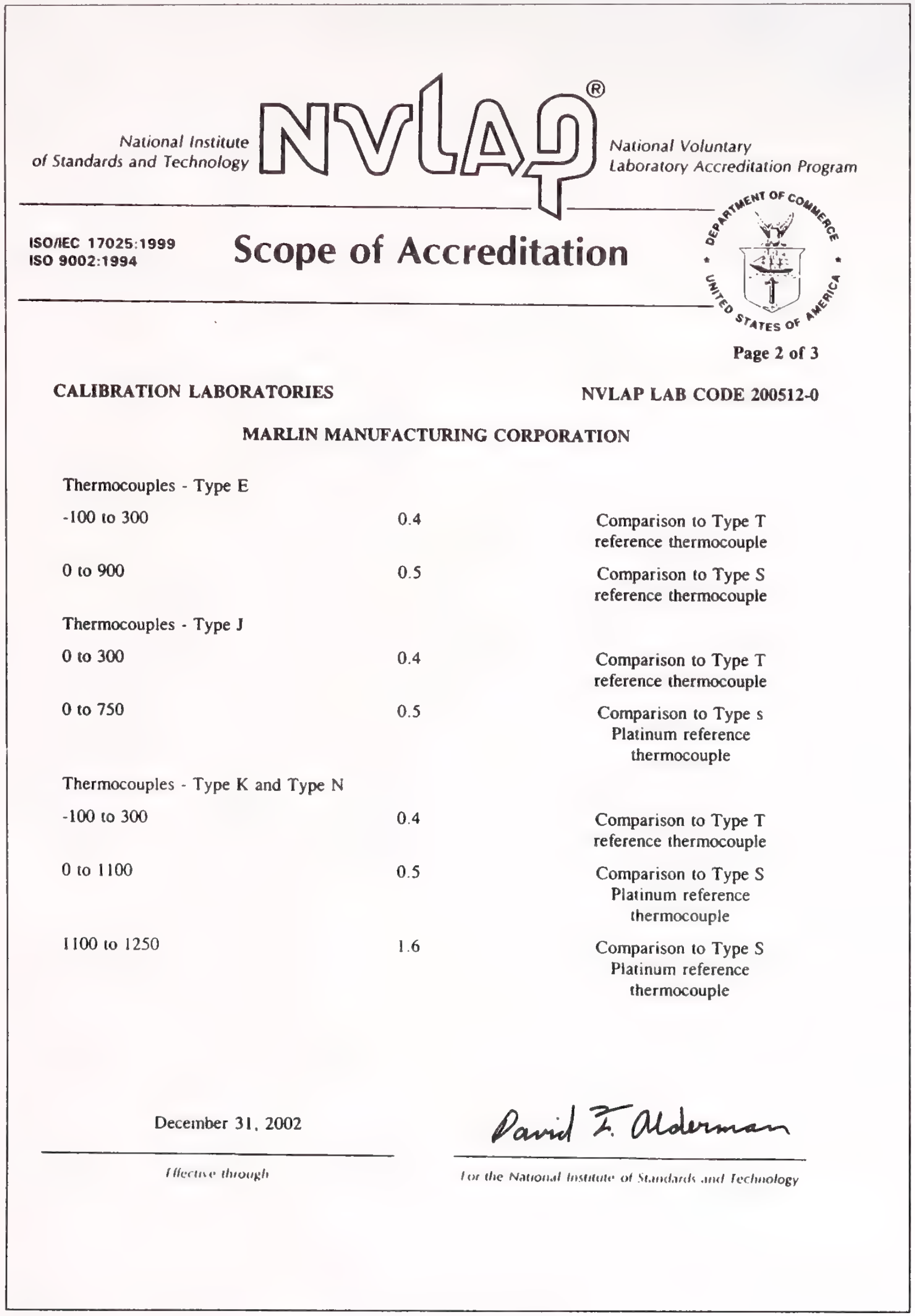

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National Voluntary Laboratory Accreditation Program

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Scope of Accreditation

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CALIBRATION LABORATORIES **NVLAP LAB CODE 200512-0**

MARLIN MANUFACTURING CORPORATION

Thermocouples - Type E		
-100 to 300	0.4	Comparison to Type T reference thermocouple
0 to 900	0.5	Comparison to Type S reference thermocouple
Thermocouples - Type J		
0 to 300	0.4	Comparison to Type T reference thermocouple
0 to 750	0.5	Comparison to Type s Platinum reference thermocouple
Thermocouples - Type K and Type N		
-100 to 300	0.4	Comparison to Type T reference thermocouple
0 to 1100	0.5	Comparison to Type S Platinum reference thermocouple
1100 to 1250	1.6	Comparison to Type S Platinum reference thermocouple

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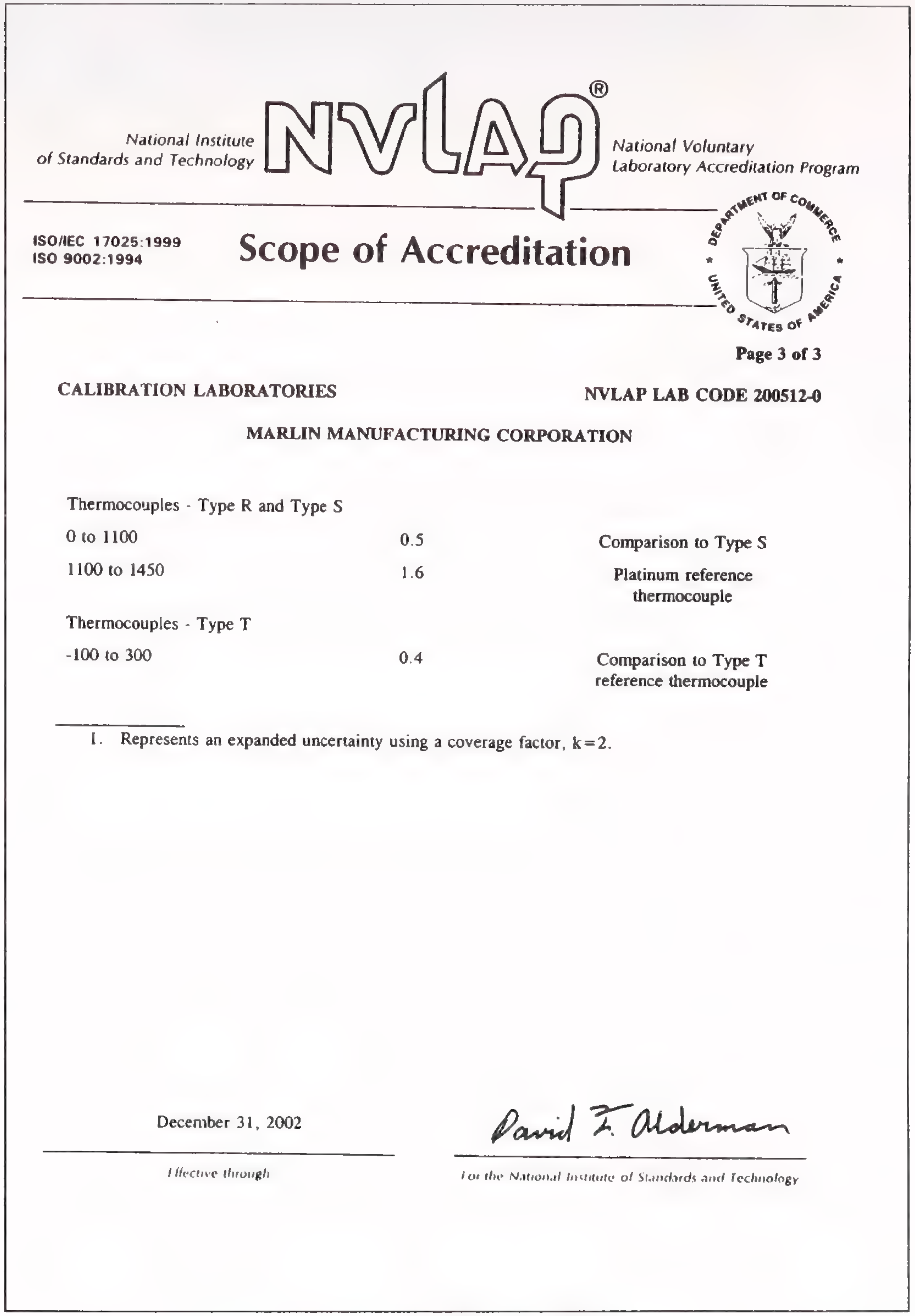

National Institute of Standards and Technology

NVLAP®

National Voluntary Laboratory Accreditation Program

ISO/IEC 17025:1999
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Scope of Accreditation

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CALIBRATION LABORATORIES **NVLAP LAB CODE 200512-0**

MARLIN MANUFACTURING CORPORATION

Thermocouples - Type R and Type S		
0 to 1100	0.5	Comparison to Type S
1100 to 1450	1.6	Platinum reference thermocouple
Thermocouples - Type T		
-100 to 300	0.4	Comparison to Type T reference thermocouple

---

1. Represents an expanded uncertainty using a coverage factor, k=2.

December 31, 2002

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LISTING OF CHEMICAL CALIBRATION LABORATORIES BY NVLAP LAB CODE

NVLAP LAB CODE 200384-0

Analytical Products Group, Inc.
2730 Washington Boulevard
Belpre, OH 45714-1943
Contact: Mr. Thomas V. Coyner
Phone: 740-423-4200
Fax: 740-423-5588
E-Mail: t.coyner@apgqa.com
URL: http://www.APGQA.com

Providers of Proficiency Testing

Accreditation Valid Through: September 30, 2002

NVLAP Code	*Designation*
USEPA WPCHEM	
20/U29	Minerals: Calcium, Magnesium, Potassium, and Sodium
20/U30	Minerals: Chloride, Fluoride, and Sulfate
20/U34	Volatile Halocarbon Compounds
20/U35	Volatile Aromatic Compounds
20/U36	Chlorinated Pesticides
20/U37	Chlordane
20/U38	Polychlorinated Biphenyls (PCBs) (as Aroclors) in Water
20/U39	Polychlorinated Biphenyls (PCBs) (as Aroclors) in Oil
20/U42	Total Alkalinity (as CaCO subscript 3)
20/U43	Total Hardness (as CaCO subscript 3)
20/U44	Total Dissolved Solids
20/U48	Specific Conductance
USEPA WPCHEM/DMRQACHEM	
20/U28	Trace Metals
20/U31	Nutrients
20/U32	Total Residual Chlorine
20/U33	Cyanide
20/U40	Total Phenolics
20/U41	Demands (Source: Glucose and glutamic acid)
20/U45	Non-Filterable Residue
20/U46	Oil and Grease
20/U47	pH
USEPA WSCHEM	
20/U01	Trace Metals
20/U02	Sodium
20/U03	Nitrate, Nitrite, Fluoride, and Orthophosphate
20/U04	Bromate, Bromide, Chlorate, and Chlorite
20/U05	Sulfate
20/U06	Residual Free Chlorine
20/U07	Cyanide
20/U09	Volatile Organic Compounds (VOCs) Group I
20/U10	Volatile Organic Compounds (VOCs) Group II
20/U11	Insecticides (Pesticides)
20/U12	Herbicides (Pesticides)
20/U13	Carbamate Pesticides
20/U14	Polycyclic Aromatic Hydrocarbon (PAH)
20/U15	Polychlorinated Biphenyls (PCBs/Aroclors)
20/U16	Toxaphene and Chlordane
20/U18	Adipate and Phthalate Esters
20/U19	Haloacetic Acids
20/U20	Chloral Hydrate
20/U21	Total Organic Carbon (TOC)
20/U22	Alkalinity (as CaCO subscript 3)
20/U23	Calcium Hardness (as CaCO subscript 3)
20/U24	Total Filterable Residue
20/U25	pH
20/U26	Turbidity

NVLAP LAB CODE 200386-0

Environmental Resource Associates (ERA)
5540 Marshall Street
Arvada, CO 80002
Contact: Mr. Curtis Wood
Phone: 303-431-8454
Fax: 303-421-0159
E-Mail: cwood@eraqc.com
URL: http://www.eraqc.com

Providers of Proficiency Testing

Accreditation Valid Through: September 30, 2002

NVLAP Code	*Designation*
20/U49	Gamma Emitters in Water
20/U50	Iodine-131 in Water
20/U51	Gross Alpha and Gross Beta Activities in Water
20/U52	Tritium in Water
20/U53	Uranium-Radium in Water
20/U54	Strontium in Water
20/U55	Mixed Alpha, Beta, Gamma Emitters
USEPA WPCHEM	
20/U29	Minerals: Calcium, Magnesium, Potassium, and Sodium
20/U30	Minerals: Chloride, Fluoride, and Sulfate
20/U34	Volatile Halocarbon Compounds
20/U35	Volatile Aromatic Compounds
20/U36	Chlorinated Pesticides
20/U37	Chlordane
20/U38	Polychlorinated Biphenyls (PCBs) (as Aroclors) in Water
20/U39	Polychlorinated Biphenyls (PCBs) (as Aroclors) in Oil
20/U42	Total Alkalinity (as CaCO subscript 3)
20/U43	Total Hardness (as CaCO subscript 3)
20/U44	Total Dissolved Solids
20/U48	Specific Conductance
USEPA WPCHEM/DMRQACHEM	
20/U28	Trace Metals
20/U31	Nutrients
20/U32	Total Residual Chlorine
20/U33	Cyanide
20/U40	Total Phenolics
20/U41	Demands (Source: Glucose and glutamic acid)
20/U45	Non-Filterable Residue
20/U46	Oil and Grease
20/U47	pH
USEPA WSCHEM	
20/U01	Trace Metals
20/U02	Sodium
20/U03	Nitrate, Nitrite, Fluoride, and Orthophosphate
20/U04	Bromate, Bromide, Chlorate, and Chlorite
20/U05	Sulfate
20/U06	Residual Free Chlorine

20/U07	Cyanide
20/U09	Volatile Organic Compounds (VOCs) Group I
20/U10	Volatile Organic Compounds (VOCs) Group II
20/U11	Insecticides (Pesticides)
20/U12	Herbicides (Pesticides)
20/U13	Carbamate Pesticides
20/U14	Polycyclic Aromatic Hydrocarbon (PAH)
20/U15	Polychlorinated Biphenyls (PCBs/Aroclors)
20/U16	Toxaphene and Chlordane
20/U18	Adipate and Phthalate Esters
20/U19	Haloacetic Acids
20/U20	Chloral Hydrate
20/U21	Total Organic Carbon (TOC)
20/U22	Alkalinity (as CaCO subscript 3)
20/U23	Calcium Hardness (as CaCO subscript 3)
20/U24	Total Filterable Residue
20/U25	pH
20/U26	Turbidity
USEPA WSMICRO	
20/U27	Coliform (Presence/Absence)

NVLAP LAB CODE 200387-0

NYS DOH Environmental Laboratory Approval Program

Empire State Plaza
P.O. Box 509
Albany, NY 12201-0509
Contact: Dr. Kenneth W. Jackson
Phone: 518-485-5570
Fax: 518-485-5568
E-Mail: jackson@wadsworth.org
URL: http://www.wadsworth.org/labcert/elap.html

Providers of Proficiency Testing

Accreditation Valid Through: September 30, 2002

NVLAP Code	*Designation*
USEPA WPCHEM	
20/U29	Minerals: Calcium, Magnesium, Potassium, and Sodium
20/U30	Minerals: Chloride, Fluoride, and Sulfate
20/U34	Volatile Halocarbon Compounds
20/U35	Volatile Aromatic Compounds
20/U36	Chlorinated Pesticides
20/U37	Chlordane
20/U38	Polychlorinated Biphenyls (PCBs) (as Aroclors) in Water
20/U42	Total Alkalinity (as CaCO subscript 3)
20/U43	Total Hardness (as CaCO subscript 3)
20/U44	Total Dissolved Solids
20/U48	Specific Conductance
USEPA WPCHEM/DMRQACHEM	
20/U28	Trace Metals
20/U31	Nutrients
20/U33	Cyanide
20/U40	Total Phenolics
20/U41	Demands (Source: Glucose and glutamic acid)
20/U45	Non-Filterable Residue
20/U46	Oil and Grease
20/U47	pH
USEPA WSCHEM	
20/U01	Trace Metals
20/U02	Sodium
20/U03	Nitrate, Nitrite, Fluoride, and Orthophosphate
20/U04	Bromate, Bromide, Chlorate, and Chlorite
20/U05	Sulfate
20/U07	Cyanide
20/U08	Asbestos
20/U09	Volatile Organic Compounds (VOCs) Group I
20/U10	Volatile Organic Compounds (VOCs) Group II
20/U11	Insecticides (Pesticides)
20/U12	Herbicides (Pesticides)
20/U13	Carbamate Pesticides
20/U14	Polycyclic Aromatic Hydrocarbon (PAH)
20/U15	Polychlorinated Biphenyls (PCBs/Aroclors)
20/U16	Toxaphene and Chlordane
20/U17	Dioxin (2, 3, 7, 8-TCDD)
20/U18	Adipate and Phthalate Esters
20/U21	Total Organic Carbon (TOC)
20/U22	Alkalinity (as CaCO subscript 3)
20/U23	Calcium Hardness (as CaCO subscript 3)
20/U24	Total Filterable Residue
20/U25	pH
USEPA WSMICRO	
20/U27	Coliform (Presence/Absence)

NVLAP LAB CODE 200388-0

Chrisope Technologies, A Division of Remel

3941 Ryan Street
Lake Charles, LA 70605
Contact: Ms. Theresa Stokeld
Phone: 800-256-4376 x203
Fax: 337-479-1006
E-Mail: tstokeld@remelinc.com

Providers of Proficiency Testing

Accreditation Valid Through: September 30, 2002

NVLAP Code	*Designation*
USEPA WSMICRO	
20/U27	Coliform (Presence/Absence)

NVLAP LAB CODE 200389-0

AccuStandard, Inc.

125 Market Street
New Haven, CT 06513-3031
Contact: Mr. William McClain
Phone: 203-786-5290 x102
Fax: 203-786-5287
E-Mail: usa@accustandard.com
URL: http://www.accustandard.com

Providers of Proficiency Testing

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NVLAP Code	*Designation*
USEPA WPCHEM	
20/U29	Minerals: Calcium, Magnesium, Potassium, and Sodium
20/U30	Minerals: Chloride, Fluoride, and Sulfate
20/U34	Volatile Halocarbon Compounds

(See 'How To Use This Directory' on page 7.)

20/U35	Volatile Aromatic Compounds
20/U36	Chlorinated Pesticides
20/U37	Chlordane
20/U38	Polychlorinated Biphenyls (PCBs) (as Aroclors) in Water
20/U39	Polychlorinated Biphenyls (PCBs) (as Aroclors) in Oil
20/U42	Total Alkalinity (as CaCO subscript 3)
20/U43	Total Hardness (as CaCO subscript 3)
20/U44	Total Dissolved Solids
20/U48	Specific Conductance

USEPA WPCHEM/DMRQACHEM

20/U28	Trace Metals
20/U31	Nutrients
20/U32	Total Residual Chlorine
20/U33	Cyanide
20/U40	Total Phenolics
20/U41	Demands (Source: Glucose and glutamic acid)
20/U45	Non-Filterable Residue
20/U46	Oil and Grease
20/U47	pH

USEPA WSCHEM

20/U01	Trace Metals
20/U02	Sodium
20/U03	Nitrate, Nitrite, Fluoride, and Orthophosphate
20/U04	Bromate, Bromide, Chlorate, and Chlorite
20/U05	Sulfate
20/U06	Residual Free Chlorine
20/U07	Cyanide
20/U09	Volatile Organic Compounds (VOCs) Group I
20/U10	Volatile Organic Compounds (VOCs) Group II
20/U11	Insecticides (Pesticides)
20/U12	Herbicides (Pesticides)
20/U13	Carbamate Pesticides
20/U14	Polycyclic Aromatic Hydrocarbon (PAH)
20/U15	Polychlorinated Biphenyls (PCBs/Aroclors)
20/U16	Toxaphene and Chlordane
20/U17	Dioxin (2, 3, 7, 8-TCDD)
20/U18	Adipate and Phthalate Esters
20/U19	Haloacetic Acids
20/U20	Chloral Hydrate
20/U21	Total Organic Carbon (TOC)
20/U22	Alkalinity (as CaCO subscript 3)
20/U23	Calcium Hardness (as CaCO subscript 3)
20/U24	Total Filterable Residue
20/U25	pH
20/U26	Turbidity

NVLAP LAB CODE 200390-0

Absolute Standards, Inc.

P.O. Box 5585
Hamden, CT 06518-0585
Contact: Mr. Stephen J. Arpie, M.S.
Phone: 203-281-2917
Fax: 203-281-2922
E-Mail: absolutest@aol.com
URL: http://www.absolutestandards.com

Providers of Proficiency Testing

Accreditation Valid Through: September 30, 2002

NVLAP Code	*Designation*

USEPA WPCHEM

20/U29	Minerals: Calcium, Magnesium, Potassium, and Sodium
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20/U48	Specific Conductance

USEPA WPCHEM/DMRQACHEM

20/U28	Trace Metals
20/U31	Nutrients
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20/U40	Total Phenolics
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20/U47	pH

USEPA WSCHEM

20/U01	Trace Metals
20/U02	Sodium
20/U03	Nitrate, Nitrite, Fluoride, and Orthophosphate
20/U04	Bromate, Bromide, Chlorate, and Chlorite
20/U05	Sulfate
20/U06	Residual Free Chlorine
20/U07	Cyanide
20/U09	Volatile Organic Compounds (VOCs) Group I
20/U10	Volatile Organic Compounds (VOCs) Group II
20/U11	Insecticides (Pesticides)
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20/U14	Polycyclic Aromatic Hydrocarbon (PAH)
20/U15	Polychlorinated Biphenyls (PCBs/Aroclors)
20/U16	Toxaphene and Chlordane
20/U18	Adipate and Phthalate Esters
20/U19	Haloacetic Acids
20/U20	Chloral Hydrate
20/U21	Total Organic Carbon (TOC)

20/U22	Alkalinity (as CaCO subscript 3)
20/U23	Calcium Hardness (as CaCO subscript 3)
20/U24	Total Filterable Residue
20/U25	pH
20/U26	Turbidity

NVLAP LAB CODE 200391-0

Microcheck, Inc.

142 Gould Road
Northfield, VT 05663
Contact: Dr. Michael G. Sinclair
Phone: 802-485-6600 X22
Fax: 802-485-6100
E-Mail: mike@microcheck.com
URL: http://www.microcheck.com

Providers of Proficiency Testing

Accreditation Valid Through: December 31, 2002

NVLAP Code	*Designation*
USEPA WSMICRO	
20/U27	Coliform (Presence/Absence)

NVLAP LAB CODE 200392-0

Spex Certiprep Inc.

203 Norcross Avenue
Metuchen, NJ 08840
Contact: Dr. Vanaja Sivakumar
Phone: 732-549-7144 x418
Fax: 732-494-1747
E-Mail: vsivakumar@spexcsp.com

Providers of Proficiency Testing

Accreditation Valid Through: September 30, 2002

NVLAP Code	*Designation*
USEPA WPCHEM	
20/U29	Minerals: Calcium, Magnesium, Potassium, and Sodium
20/U30	Minerals: Chloride, Fluoride, and Sulfate
20/U42	Total Alkalinity (as CaCO subscript 3)
20/U43	Total Hardness (as CaCO subscript 3)
20/U44	Total Dissolved Solids
20/U48	Specific Conductance
USEPA WPCHEM/DMRQACHEM	
20/U28	Trace Metals
20/U31	Nutrients
20/U32	Total Residual Chlorine
20/U33	Cyanide
20/U40	Total Phenolics
20/U41	Demands (Source: Glucose and glutamic acid)
20/U45	Non-Filterable Residue
20/U46	Oil and Grease
20/U47	pH
USEPA WSCHEM	
20/U01	Trace Metals
20/U02	Sodium
20/U03	Nitrate, Nitrite, Fluoride, and Orthophosphate
20/U04	Bromate, Bromide, Chlorate, and Chlorite
20/U05	Sulfate
20/U06	Residual Free Chlorine
20/U07	Cyanide
20/U21	Total Organic Carbon (TOC)
20/U22	Alkalinity (as CaCO subscript 3)
20/U23	Calcium Hardness (as CaCO subscript 3)
20/U24	Total Filterable Residue
20/U25	pH
20/U26	Turbidity

NVLAP LAB CODE 200393-0

Resource Technology Corporation (RTC)

2931 Soldier Springs Road
P.O. Box 1346
Laramie, WY 82070
Contact: Mr. Robert D. Rucinski
Phone: 307-742-5452
Fax: 307-745-7936
E-Mail: RRucinski@RT-Corp.com
URL: http://www.rt-corp.com

Providers of Proficiency Testing

Accreditation Valid Through: March 31, 2002

NVLAP Code	*Designation*
USEPA WPCHEM	
20/U29	Minerals: Calcium, Magnesium, Potassium, and Sodium
20/U30	Minerals: Chloride, Fluoride, and Sulfate
20/U42	Total Alkalinity (as CaCO subscript 3)
20/U43	Total Hardness (as CaCO subscript 3)
20/U44	Total Dissolved Solids
20/U48	Specific Conductance
USEPA WPCHEM/DMRQACHEM	
20/U28	Trace Metals
20/U31	Nutrients
20/U32	Total Residual Chlorine
20/U33	Cyanide
20/U40	Total Phenolics
20/U41	Demands (Source: Glucose and glutamic acid)
20/U45	Non-Filterable Residue
20/U46	Oil and Grease
20/U47	pH
USEPA WSCHEM	
20/U01	Trace Metals
20/U02	Sodium
20/U03	Nitrate, Nitrite, Fluoride, and Orthophosphate
20/U04	Bromate, Bromide, Chlorate, and Chlorite
20/U05	Sulfate
20/U06	Residual Free Chlorine
20/U07	Cyanide
20/U21	Total Organic Carbon (TOC)
20/U22	Alkalinity (as CaCO subscript 3)
20/U23	Calcium Hardness (as CaCO subscript 3)
20/U24	Total Filterable Residue
20/U25	pH
20/U26	Turbidity

NVLAP LAB CODE 200395-0

Protocol Analytical Supplies, Inc.

472 Lincoln Blvd.
Middlesex, NJ 08846
Contact: Mr. William H. Hahn, Jr.
Phone: 732-627-0500
Fax: 732-627-0979
E-Mail: bhahn@prostds.com
URL: http://prostds.com

Providers of Proficiency Testing

Accreditation Valid Through: September 30, 2002

NVLAP Code	*Designation*
USEPA WPCHEM	
20/U34	Volatile Halocarbon Compounds
20/U35	Volatile Aromatic Compounds
20/U36	Chlorinated Pesticides
20/U37	Chlordane
20/U38	Polychlorinated Biphenyls (PCBs) (as Aroclors) in Water
20/U39	Polychlorinated Biphenyls (PCBs) (as Aroclors) in Oil
USEPA WSCHEM	
20/U09	Volatile Organic Compounds (VOCs) Group I
20/U10	Volatile Organic Compounds (VOCs) Group II
20/U11	Insecticides (Pesticides)
20/U12	Herbicides (Pesticides)
20/U14	Polycyclic Aromatic Hydrocarbon (PAH)
20/U15	Polychlorinated Biphenyls (PCBs/Aroclors)
20/U16	Toxaphene and Chlordane

NVLAP LAB CODE 200440-0

NSI Solutions, Inc.

7517 Precision Dr., #101
Raleigh, NC 27617
Contact: Mr. Mark R. Hammersla
Phone: 919-957-9672
Fax: 919-957-7562
E-Mail: mhammersla@nsi-es.com
URL: http://www.nsi-es.com

Providers of Proficiency Testing

Accreditation Valid Through: December 31, 2002

NVLAP Code	*Designation*
USEPA WPCHEM	
20/U29	Minerals: Calcium, Magnesium, Potassium, and Sodium
20/U30	Minerals: Chloride, Fluoride, and Sulfate
20/U34	Volatile Halocarbon Compounds
20/U35	Volatile Aromatic Compounds
20/U36	Chlorinated Pesticides
20/U37	Chlordane
20/U38	Polychlorinated Biphenyls (PCBs) (as Aroclors) in Water
20/U39	Polychlorinated Biphenyls (PCBs) (as Aroclors) in Oil
20/U42	Total Alkalinity (as CaCO subscript 3)
20/U43	Total Hardness (as CaCO subscript 3)
20/U44	Total Dissolved Solids
20/U48	Specific Conductance
USEPA WPCHEM/DMRQACHEM	
20/U28	Trace Metals
20/U31	Nutrients
20/U32	Total Residual Chlorine
20/U33	Cyanide
20/U40	Total Phenolics
20/U41	Demands (Source: Glucose and glutamic acid)
20/U45	Non-Filterable Residue
20/U46	Oil and Grease
20/U47	pH
USEPA WSCHEM	
20/U01	Trace Metals
20/U02	Sodium
20/U03	Nitrate, Nitrite, Fluoride, and Orthophosphate
20/U04	Bromate, Bromide, Chlorate, and Chlorite
20/U05	Sulfate
20/U06	Residual Free Chlorine
20/U07	Cyanide
20/U09	Volatile Organic Compounds (VOCs) Group I
20/U10	Volatile Organic Compounds (VOCs) Group II
20/U11	Insecticides (Pesticides)
20/U12	Herbicides (Pesticides)
20/U13	Carbamate Pesticides
20/U14	Polycyclic Aromatic Hydrocarbon (PAH)
20/U15	Polychlorinated Biphenyls (PCBs/Aroclors)
20/U16	Toxaphene and Chlordane
20/U18	Adipate and Phthalate Esters
20/U19	Haloacetic Acids
20/U20	Chloral Hydrate
20/U21	Total Organic Carbon (TOC)
20/U22	Alkalinity (as CaCO subscript 3)
20/U23	Calcium Hardness (as CaCO subscript 3)
20/U24	Total Filterable Residue
20/U25	pH
20/U26	Turbidity

NVLAP LAB CODE 200462-0

Thermo Spectronic

Mercers Row
Cambridge CB5 8HY
UNITED KINGDOM
Contact: Mr. Douglas Irish
Phone: 44 1223 446646
Fax: 44 1223 446658
E-Mail: doug.irish@thermospectronic.co.uk
URL: http://www.thermospectronic.com

NIST Traceable Reference Materials

Accreditation Valid Through: December 31, 2002

NVLAP Code	*Designation*
20/N01	Visible Absorbance

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Periodical

Journal of Research of the National Institute of Standards and Technology—Reports NIST research and development in metrology and related fields of physical science, engineering, applied mathematics, statistics, biotechnology, and information technology. Papers cover a broad range of subjects, with major emphasis on measurement methodology and the basic technology underlying standardization. Also included from time to time are survey articles on topics closely related to the Institute's technical and scientific programs. Issued six times a year.

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